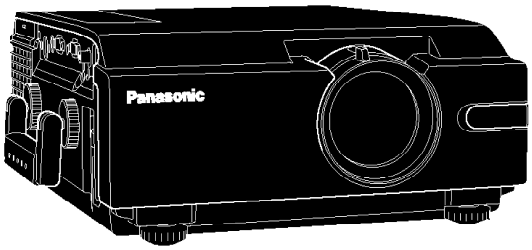
ORDER NO. VED00073000A0

D10

Service Manual

LCD Projector

PT-L759U / PT-L759E / PT-L759A



SPECIFICATIONS

Specifications

LCD panels

1.3” Poly silicon LCD panel (W/MLA) X 3, / RGB shutter method, using Translucent TN crystal panels

Drive method

Active Matrix 4:3 Aspect Ratio panels, TFT (Thin Film Transistor)

No. of pixels

786 432 (1024 X 768) stripe pixels X 3 panels

Lens

1-1.3 zoom lens , F2.0-2.5, f45 mm- 59 mm Manual Focus

Projector lamp

220 W UHM lamp

Contrast ratio

250 : 1

Brightness

2 500 lumen/ ANSI

No. of colors

16 777 216

Screen size

0.508 m - 7.62 m (20” - 300”) (measured diagonally)

Projection (throw) distance

0.85 m - 13.45 m (2.62’ - 44.29’)

Note

- Specifications and design subject to Change without notice.

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Lens axis shift

6 : 1 Low position

Color systems

PAL/SECAM/NTSC/PAL-M/PAL-N/NTSC4.43

Video input signal

1 V [p-p], sync negative, 75 Ω terminated

S-Video input signal

Y (luminance signal) : 1 V [p-p], sync negative, 75 Ω terminated C (chrominance signal) : burst 0.286 V [p-p], 75 Ω terminated

RGB1 input signal, RGB2/ YPBPR input signal

Video signal

RGB Analog (0.7 V [p-p], 1.0 V [p-p] with sync on green, 75 Ω) YPBPR (Y : 1.0 V [p-p], PB, PR : 0.7 V [p-p], 75 Ω)

Sync signal

H/V separate, H/V composite, or Sync-on-Green

H-Frequency

24 KHz - 85 KHz (TTL Level)

V-Frequency

50 Hz - 86 Hz (TTL Level)

Connectors

S-Video Input: Mini DIN 4-pin X 1
Video Input : RCA pin X 1
Video Audio Input: M3 stereo mini pin X 1
Serial Port (RS-232C): Mini DIN 8-pin X 1
MOUSE port: 13-pinround connector X 1
RGB2/YPBPR Input: D-Sub mini 15-pin X 1
RGB/YPBPR Audio Input: M3 stereo mini pin X 1
RGB1 input: D-Sub mini 15-pin X 1
Audio output: M3 stereomini pin X 1
USB 4-pin X 1 (Type B)

Controls

Cabinet Buttons/ Switches

Main Power ON/OFF, Power ON/OFF, Volume+/-, Auto setup, Menu, Input, ▲ , ▼ , ◀ , ▶ , Enter, Keystone

Remote Control Buttons

Power ON/OFF, Freeze, Shutter, Mute, Volume+/-, Enter, Menu, Input, ▲ , ▼ , ◀ ▶ , Laser, D. Zoom+/-, Keystone, Auto setup, Mouse, Click1, Click2

Audio output

1.5 W (10% THD)

Speaker

70 mm X 40 mm X 1 (2.76” X 1.58” X 1)

Operating Temperature

5°C to 40°C (41°F to 104°F)

Operating Humidity

10% - 80% (non-condensing)

Note

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Storage Temperature

-25°C to 40°C / (-13°F to 104°F) **40°C to 60°C / (104°F to 140°F)**

Storage Humidity

5% - 85% (non-condensing) **Normal humidity**

Power Supply

100 V - 240 V AC (50 Hz or 60 Hz) Automatic

Power consumption

370 W

Dimensions W X H X D

263 mm X 124 mm X 336 mm (10-6/16" X 4-14/16" X 13-14/16")

Amps

3.7 A - 1.5 A

Weight

13.9 lbs. (6.3 Kg)

Approvals

FCC, UL, C-UL, CE, VDE, FDA, CCIB

Note

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⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public.
It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

Panasonic

IMPORTANT SAFETY NOTICE

There are special components used in this equipment which are important for safety. These parts are marked by ⚠ in the Schematic Diagram, Circuit Boards, Exploded Views and Replacement Parts List. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent shock, fire or other hazards. Do not modify the original design without permission of manufacturer.

Caution: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: To assure continued compliance and prevent undesirable interference, use only the provided shielded VGA cable with 2 ferrite cores while connecting LCD to computer and all other connecting cables should be shielded. Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

1. SAFETY PRECAUTIONS

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1.1. GENERAL GUIDELINES

1. For continued safety, no modification of any circuit should be attempted.
2. Disconnect AC Plug before disassembling this unit.
3. It is advisable to use an isolation transformer in the AC supply before servicing.
4. When servicing, observe the original lead dress. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.
5. After servicing, see to it that all the protective devices such as insulation barriers, insulation papers, shield, and isolation R-C combinations etc. are properly installed.
6. After servicing, be sure to restore the wires, leads, insulation barriers, shields, etc.
7. After servicing, make the leakage current checks to prevent the customer from being exposed to shock hazards.

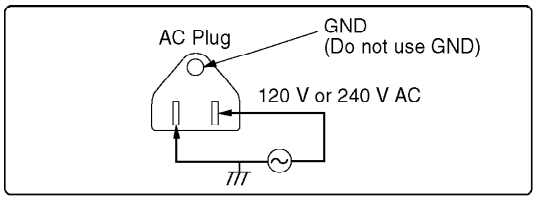
Caution:

Use a separate Isolation Transformer for this unit when servicing.

1.2. LEAKAGE CURRENT CHECK

1. Connect AC Plug to 120 volt or 240 volt AC outlet.
   Do not use the ground prong of AC Plug. (See Fig. 1-2-1)
   Do not use a isolation transformer for this check.

Fig. 1-2-1



2. Connect a 1.5K ohms, 10 watts resistor, in parallel with a 0.15 μ F capacitor, between each exposed metallic part on the set and a good earth ground. (See Fig. 1-2-2)

Fig. 1-2-2

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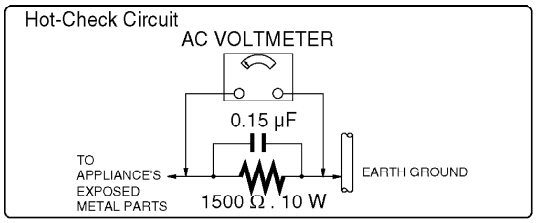
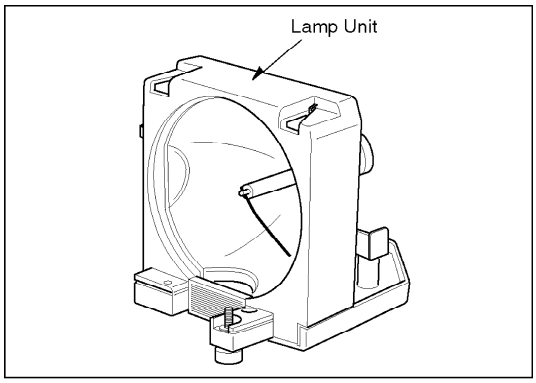


3. **Use an AC voltmeter, with 1000 ohms/volt or more sensitivity, to measure the potential across the resistor.**
4. **Check each exposed metallic part, and measure the voltage at each point.**
5. **Reverse the AC plug in the AC outlet and repeat each of the above measurements.**
6. **The potential at any point should not exceed 1.125 volt RMS. A leakage current tester (Simpson Model 229 equivalent) may be used to make the hot checks, leakage current must not exceed 0.75 milliamp. In case a measurement is outside of the limitsspecified, there is a possibility of shock hazard, and the LCD Projector should be repaired and rechecked before it is returned to the customer.**

1.3. UV-PRECAUTION

1. **Be sure to disconnect the AC Plug when replacing the lamp.**
2. **Since the lamp reaches a very high temperature during its operation, wait until it has completely cooled off when replacing the Lamp Unit.**
3. **The lamp emits small amounts of UV-Radiation.**
   Avoid direct-eye contact.

Fig. 1-3-1



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2. OPERATION GUIDE

Note:

- At this service manual, it mentions only the Operating Instructions of PT-L759U as the representative of PT-L759U, PT-L759E and PT-L759A.

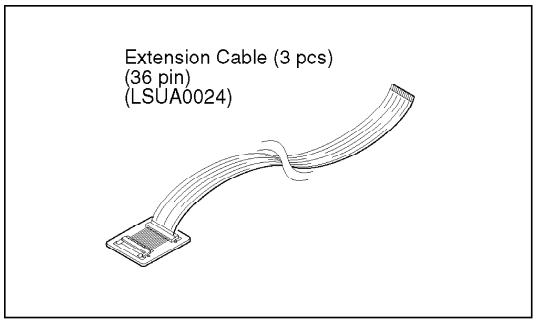
- Because some pages in the user instruction manual are used for this chapter (page 5 through 50 in this service manual) without change, note that the page numbers shown in the sentences of this chapter are those of the user instruction manual.

3. SERVICE CAUTIONS AND NOTES

3.1. SERVICE POSITION

The position shown in Fig. 3-1-1 is used for checking, adjusting and replacing parts. Extension Cable (LSUA0024) is necessary for servicing.

Fig. 3-1-1



1. In the order described in the "4.2. Disassembly Method of Cabinet Parts" of 4. Disassembly/Assembly Procedures, remove the Top Cover Ass'y.

2. Remove 7 screws (F) and 2 screws (G) as shown in Fig. 4-2-6.

3. Disconnect connectors P3501, P3502, P3503 and P4001 on the Main C.B.A.

4. Connect Extension Cables as follows:

A. Connect Extension Cable (36 pin) between P3501 on the Main C.B.A. and LCD Red Unit.a) Connect Extension Cable (36 pin) between P3501 on the Main C.B.A. and LCD Red Unit.

B. Connect Extension Cable (36 pin) between P3502 on the Main C.B.A. and LCD Green Unit.

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C. Connect Extension Cable (36 pin) between P3503 on the Main C.B.A. and LCD Blue Unit.

5. Carefully place the Main C.B.A. as shown in Fig. 3-1-2.

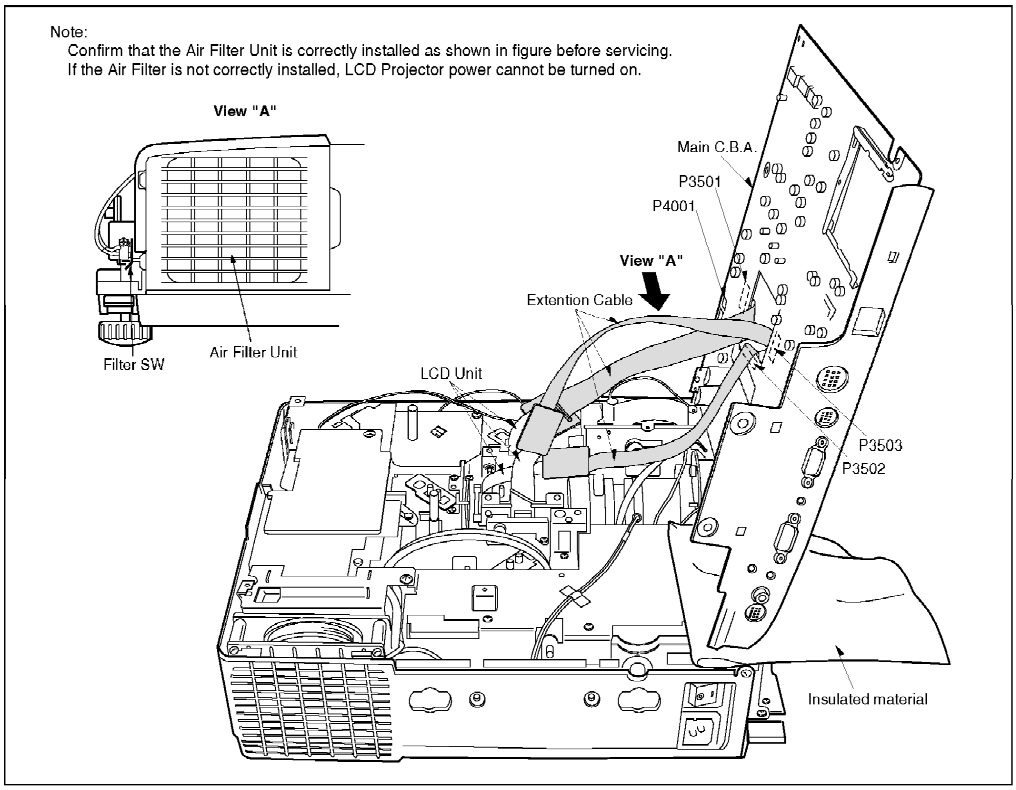
Note:
The LCD Projector power cannot be turned on unless the Air Filter unit is correctly installed.

6. After servicing, remove Extension Cables.

7. Reinstall the Main C.B.A., and reconnect connectors.

8. Make sure that all wires and leads are placed in their original position.

Fig. 3-1-2



3.2. How to display Lamp operation time (Service Mode)

1. Connect a jumper wire between TP6012 and TP6013 on Main C.B.A. for over 5 seconds as shown in Fig. 3-2-1.

Fig. 3-2-1

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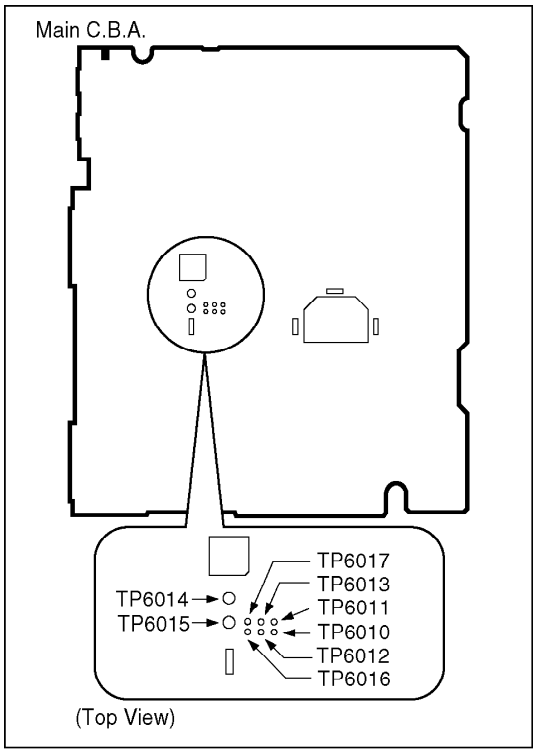
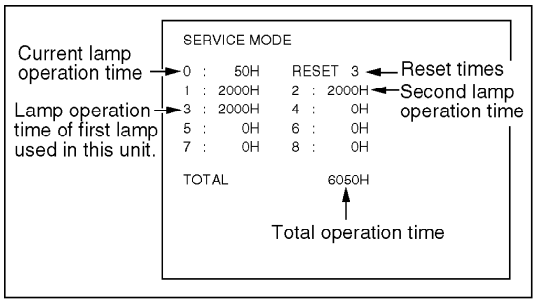


2. Lamp operation time will be displayed as shown in Fig. 3-2-2.

Fig. 3-2-2



3. Connect a jumper wire between TP6012 and TP6013 for over 5 seconds again or press MENU button on remote control in order to release from service mode.

Note:
After replacing Main C.B.A., memory data such as history of lamp operation time has been reset.However, it can be remained by installing EEPROM IC (IC6009) to replaced Main C.B.A. from original Main C.B.A.

3.3. How to initialize EEPROM IC

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If both EEPROM IC's (IC6009, IC6010) on Main C.B.A. are replaced: After replacing both EEPROM IC's (IC6009, IC6010), be sure to perform each of following steps in the order presented.

1. **Connect a jumper wire between TP6016 and TP6017 on Main C.B.A. for over 5 seconds to set to factory set mode. Then, remove the jumper wire.**
2. **"FACTORY" appears on screen.**
3. **Connect a jumper wire between TP6016 and TP6017 again for over 5 seconds to initialize EEPROM IC's. Then, remove the jumper wire.**
4. **"Self Check" appears on screen.**
5. **Remove jumper wires and"MEMORY OK" appears on screen.**
6. **Perform adjustments 5-4-1 through 5-4-4 and 5-4-11 through 5-4-16.**
7. **After completing all adjustments, press the MENU button to memorize adjustment data in EEPROM IC and release from the Factory Adjust mode.**
   Otherwise, adjustment data will be cancelled.
8. **"FACTORY" appears on screen.**
9. **Press the POWER button on remote control in order to release from factory set mode.**

Note:
When initializing EEPROM IC's, memory data such as history of lamp operation time and adjustment data will be reset.

3.4. Lamp replacement procedure

Caution:

Lamp replacement procedure Caution: Because of possibility of injury, strictly follow the replacement procedure below.

1. **After the cooling fan has stopped, and STANDBY(R) ON(G) indicator turns solid red. Set the Main Power Switch to OFF and unplug the power cord.**

Note:
Please wait more than one hour for lamp replacement.

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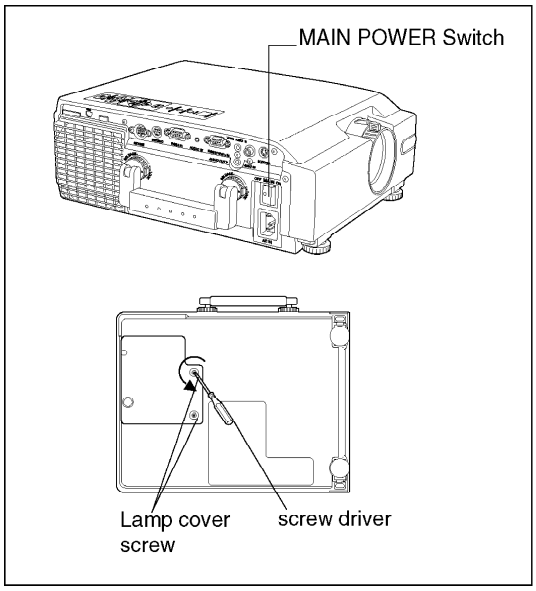
[If you need to replace the lamp more urgently]

- The LCD Projector has a forced cooling feature. After the POWER switch is turned OFF, and sometime during about the first minute of the normal cooling fan operation, press◀ and▶ at same time. The cooling fan will change to high speed for about 10 minutes. (The "C-d" STATUS CODE will be displayed.)

2. Grabbing the handle, place the LCD Projector up on its side as illustrated.

3. Remove the Lamp cover screws.
First read caution and warning labels on Lamp cover. Then, remove the Lamp cover screws (2), and take off the lamp cover.

Fig. 3-4-1



4. Remove the Lamp unit screw.
Remove the lamp unit screw (2), then grasp the Lamp unit handle and carefully pull it from the LCD Projector. Keep Lamp housing opening to your right. Do not touch Lamp or point Lamp opening at anyone.

Fig. 3-4-2

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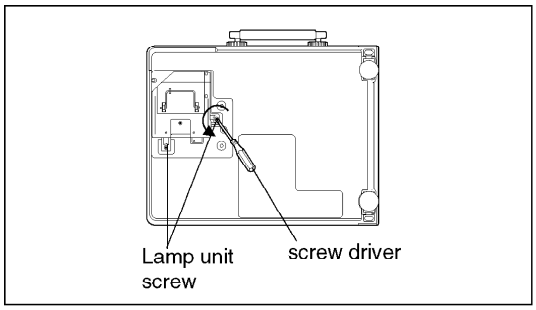
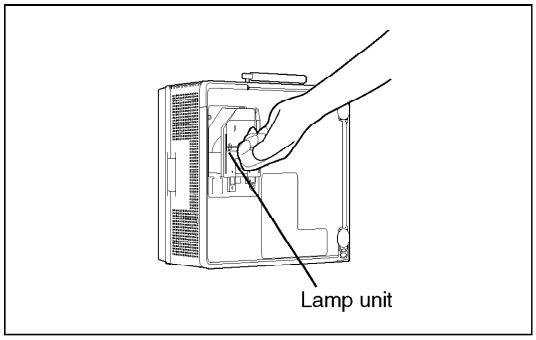


Fig. 3-4-3



WARNING:

The lamp may be hot. Be careful when handling.

CAUTION

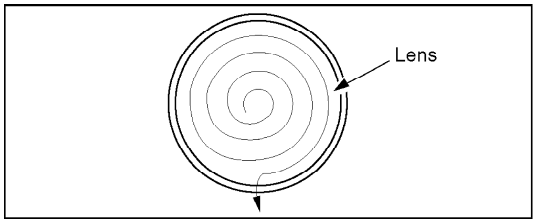
- High-pressure lamp may be explode if improperly handled.

- Danger of injury due to lamp fragments.

3.5. Cleaning the Projection Lens

Use lens cleaning paper and cleaner available at your local camera shop, etc.Dampen the cleaning paper with cleaner and gently wipe the lens surface from the center outward to remove dust as shown in Fig. 3-5-1.

Fig. 3-5-1



Note:
Do not use excessive force when cleaning the lens.

3.6. Connection of the Flexible Cables to Trap Connector

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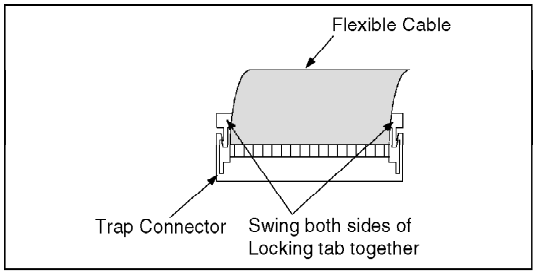
Fig No.	No. of Pins	C.B.A.
P3501	36 pin	Main C.B.A.
P3502	36 pin	Main C.B.A.
P3503	36 pin	Main C.B.A.
P6005	18 pin	Main C.B.A.

(Removal and Installation of Flexible Cable)

- Removal

1. **On the Trap Connector, swing both ends of the Locking Tab to release the Trap portion of the Connector. Then pull Flexible Cable out to remove as shown in Fig. 3-6-1.**

Fig. 3-6-1



- Installation

1. **Insert the end of the Flexible Cable into the Trap Connector.**
2. **Without twisting the Cable, press the Locking Tab in into its locked positions.**
3. **Gently and slightly pull up on the Cable to confirm if it is installed firmly.**

3.7. Wire and Lead Position Diagram

After servicing, make sure that all wires and leads are placed in their original position.It is important for the best operation of the unit.

Fig. 3-7-1

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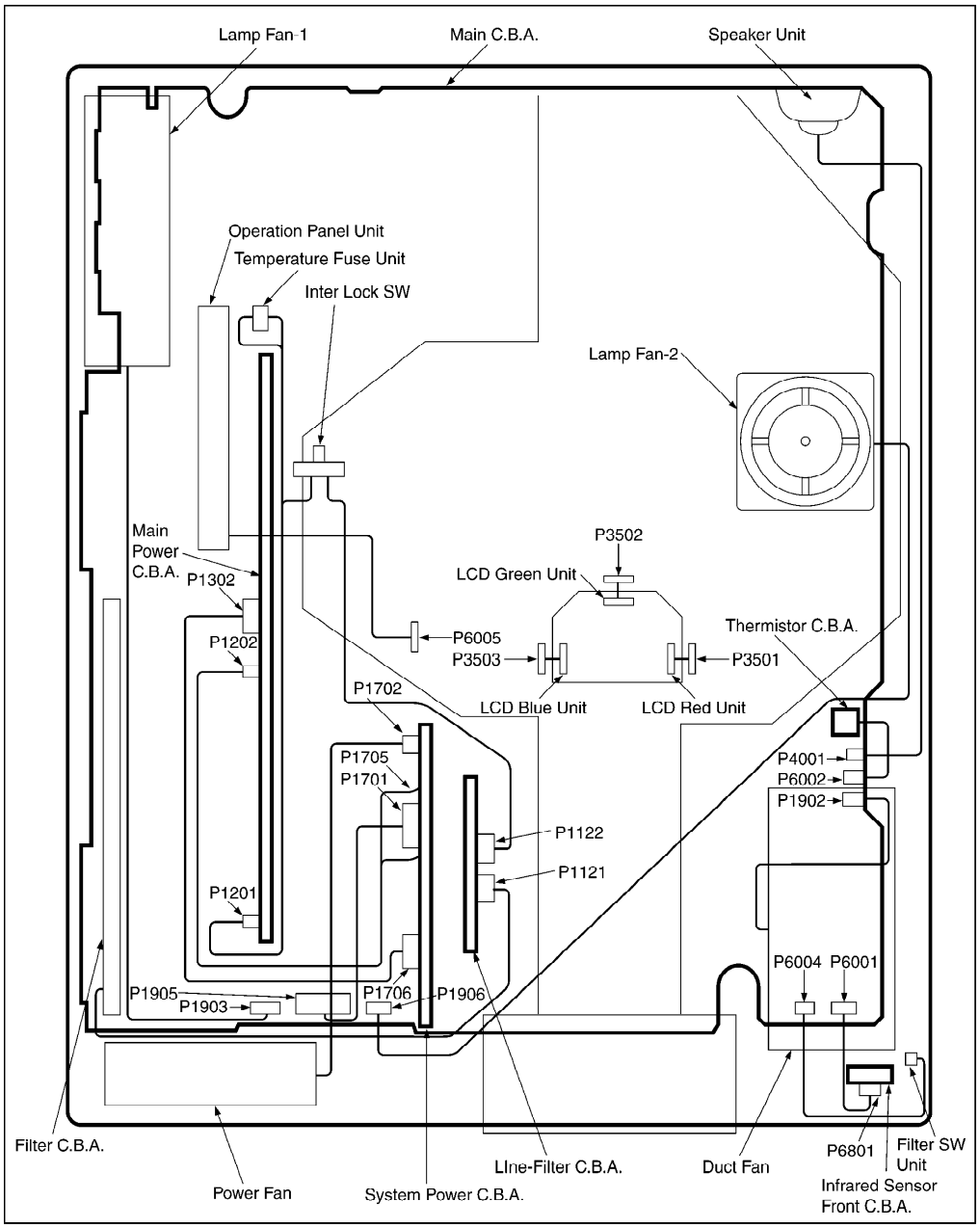

3.8. External Interface (RS-232C)

3.8.1. Outlined Function

Through connection with external equipment (e.g. personal computer), it can control the projector from outside or can inquire about status.

3.8.2. Requirements for Receiving

- Lamp control command or inquiry command can be received ordinarily.

- Other commands can be received when lamp is set at ON only. / (When lamp is set at OFF, it does communication response to command only and does no actual work.)

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3.8.3. Resetting

- When any requirement for receiving is not filled, it is placed into the state of resetting.

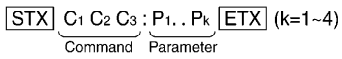
3.8.4. Operation

1. Communication

- Speed : 9600 bps (ordinary control)
- Parity : NONE
- Split bit : 1 bit
- Character length : 8 bit
- XON/OFF : NONE
- Letter code : JIS X 0201 (capital letters only)

2. Command

- Constitution: Command consists of 3 characters following STX and with ETX at the end. / When a parameter is needed, cut off by inserting a colon(:).



3. Procedure

- Connection: In this case, the projector is DCE (Data Circuit Ending device). Connect it with the personal computer by a straight cable.

1. Communication data start& end

- The start of the command (STX)
- The end of the command (ETX)

2. Response

ACK/NAK response is deimplemented. At the end of a command, either one of the following is returned:

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(At a normal end)

• On execution of a control command

[STX] C_1 C_2 C_3 : P_1. . P_k [ETX] (k=1~4)

Command Parameter

• On execution of a inquiry command

[STX] D_1 D_2 D_3 [ETX]

Data

(At an abnormal end, or on reception of an invalid command/parameter)

[STX] ER4N_2 N_3 [ETX]

N_2 and N_3 show error contents.

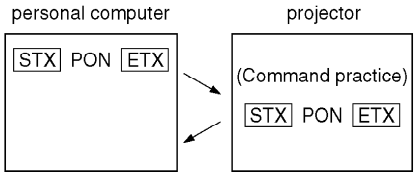
ER401 = Command invalid (or abnormal end)

ER402 = Parameter invalid

After [STX], reception of other than command causes return of ER401.

4. The use example of the command

Example:



3.8.5. Input and Output

- TXD: Data sent from projector

- RXD: Data received from personal computer

3.8.6. Command List

3.8.6.1. Control command

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Command Name <>: Parameter Format	Description	Projector Replying <>: Parameter Format	Parameter		Re
			Min.	Max.	
PON	POWER ON	PON	—	—	
POF	POWER OFF	POF	—	—	
IIS:<input signal>	INPUT SELECT	IIS:<input signal>	—	—	
ORF:<RGB2 signal>	RGB2 INPUT TERMINAL SETTING	ORF:<RGB2 signal>	—	—	
AVL:<pl1>	AUDIO VOLUME ADJUSTMENT	AVL:<pl1>	000	063	
AMT:<off on>	AUDIO MUTE ON/OFF	AMT:<off on>	0	1	
OPM:<off on>	VIDEO MUTE ON/OFF	OPM:<off on>	0	1	
OFZ:<off on>	FREEZE ON/OFF	OFZ:<off on>	0	1	
VPM:<picture mode>	PICTURE SELECT	VPM:<picture mode>	—	—	
VCO:<pl2>	COLOR ADJUSTMENT	VCO:<pl2>	-30	+30	
VTN:<pl2>	TINT ADJUSTMENT	VTN:<pl2>	-30	+30	
VBR:<pl2>	BLACK LEVEL ADJUSTMENT	VBR:<pl2>	-30	+30	
*1 : Of some kinds of signals the adjustable extent is very narrow.					

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Command Name <>: Parameter Format	Description	Projector Replying <>: Parameter Format	Parameter		Re
			Min.	Max.	
VCN:<pl2>	CONTRAST ADJUSTMENT	VCN:<pl2>	-30	+30	
VSR:<pl2>	SHARPNESS ADJUSTMENT	VSR:<pl2>	-04	+03	
VWR:<pl2>	R LEVEL ADJUSTMENT	VWR:<pl2>	-30	+30	
VWG:<pl2>	G LEVEL ADJUSTMENT	VWG:<pl2>	-30	+30	
VWB:<pl2>	B LEVEL ADJUSTMENT	VWB:<pl2>	-30	+30	
VHP:<pl2>	H POSITIONING	VHP:<pl2>	(-50)	+50	*1
VVP:<pl2>	V POSITIONING	VVP:<pl2>	(-30)	(+30)	*1
VDC:<pl2>	DOT CLOCK ADJUSTMENT	VDC:<pl2>	(-50)	+90	*1
VCP:<pl1>	PHASE ADJUSTMENT	VCP:<pl1>	000	031	
VSG:<tv system>	TV SYSTEM SELECT	VSG:<tv system>	—	—	
OKS:<pl3>	KEYSTONE ADJUSTMENT	OKS:<pl3>	-120	+120	
OIL:<installation>	PROJECTING MODE SELECT	OIL:<installation>	1	4	
OSS:<screen size>	SCREEN SIZE SELECT	OSS:<screen size>	0	1	
OWZ: <magnification-1>	D.ZOOM MAGNIFICATION SETTING	OWZ: <magnification-1>	—	—	
OZU	D.ZOOM MAGNIFICATION UP	OZU	—	—	
OZD	D.ZOOM MAGNIFICATION DOWN	OZD	—	—	
OTZ:<magnification -2>	COMPRESSION MAGNIFICATION SETTING	OTZ:<magnification -2>	—	—	
OWD:<off on>	WIDE SCREEN ON/OFF	OWD:<off on>	0	1	
OID:<off on>	ON SCREEN DISPLAY ON/ OFF	OID:<off on>	0	1	
OLF:<no yes>	AUTO LAMP OFF FUNCTION SETTING	OLF:<no yes>	0	1	
OLG:<language>	LANGUAGE SELECT	OLG:<language>	—	—	
AUU	AUDIO VOLUME UP	AUU	—	—	
AUD	AUDIO VOLUME DOWN	AUD	—	—	
OMN	MENU	OMN	—	—	
OCU	CURSOR UP	OCU	—	—	
OCD	CURSOR DOWN	OCD	—	—	
OCL	CURSOR LEFT	OCL	—	—	
OCR	CURSOR RIGHT	OCR	—	—	
OEN	ENTER	OEN	—	—	
OAS	AUTO SETUP	OAS	—	—	
*1 : Of some kinds of signals the adjustable extent is very narrow.					

3.8.6.2. Inquiry command

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Command Name	Description	Projector Replying <>: Parameter Format	Re
QPW	The confirmation of the power condition	<power condition>	
QIN	The confirmation of the chosen input signal terminal	<input signal>	
QRF	The confirmation of the input setting of RGB2	<RGB2 signal>	
QAV	The confirmation of the audio volume level	<pl1>	
QMT	The confirmation of the condition of "VIDEO/ AUDIO MUTE ON/OFF"	<mute>	
QMU	The confirmation of the condition of "VIDEO MUTE ON/OFF"	<off on>	
QFZ	The confirmation of the condition of“FREEZE ON/ OFF”	<off on>	
QPM	The confirmation of "PICTURE MODE"	<picture mode>	
QVC	The confirmation of "COLOR ADJUSTMENT VALUE"	<pl2>	
QVT	The confirmation of "TINT ADJUSTMENT VALUE"	<pl2>	
QVB	The confirmation of "BLACK LEVEL ADJUSTMENT VALUE"	<pl2>	
QVR	The confirmation of "CONTRAST ADJUSTMENT VALUE"	<pl2>	
QVS	The confirmation of "SHARPNESS ADJUSTMENT VALUE"	<pl2>	
QWR	The confirmation of "R LEVEL ADJUSTMENT VALUE"	<pl2>	
QWG	The confirmation of "G LEVEL ADJUSTMENT VALUE"	<pl2>	
QWB	The confirmation of "B LEVEL ADJUSTMENT VALUE"	<pl2>	
QHP	The confirmation of "H POSITIONING VALUE"	<pl2>	
QVP	The confirmation of "V POSITIONING VALUE"	<pl2>	
QDC	The confirmation of "DOT CLOCK ADJUSTMENT VALUE"	<pl2>	
QCP	The confirmation of "PHASE ADJUSTMENT VALUE"	<pl1>	
QSG	The confirmation of the condition of "TV SYSTEM SELECT"	<tv system>	
QKS	The confirmation of "KEYSTONE ADJUSTMENT VALUE"	<pl3>	
QSP	The confirmation of "PROJECTING MODE"	<installation>	
QSS	The confirmation of "SCREEN SIZE"	<screen size>	
QWZ	The confirmation of "D.ZOOM MAGNIFICATION"	<magnification-1>	
QTZ	The confirmation of "COMPRESSION MAGNIFICATION"	<magnification-2>	

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Command Name	Description	Projector Replying <>: Parameter Format	Re
QWD	The confirmation of the condition of "WIDE SCREEN ON/OFF"	<off on>	
QID	The confirmation of the condition of "ON SCREEN DISPLAY ON/OFF"	<off on>	
QLF	The confirmation of the condition of "AUTO LAMP OFF FUNCTION SETTING"	<no yes>	
QLG	The confirmation of the chosen "LANGUAGE"	<language>	
Q$L	The confirmation of the lamp operation time	<acctch>	
Q$S	The confirmation of the lamp condition	<lamp status>	
QLS	The confirmation of "LAMP ON/OFF"	<lamp off on>	

3.8.6.3. Parameter Format

Parameter Format	Parameter Size	Parameter Definition
<input signal>	3	VID: VIDEO TERMINAL INPUT, SVD: S-VIDEO INPUT, RG1/RGB: RGB1 TERMINAL INPUT, RG2: RGB2(or YPBPR) TERMINAL INPUT
<RGB2 signal>	1	0: RGB2, 1: YPBPR
<pl1>	3	DECIMAL SYSTEM (without the mark) (0 ~ 999)
<pl2>	3	DECIMAL SYSTEM (with the mark) (-99,---,-01,+00,+01, ---,+99)
<pl3>	4	DECIMAL SYSTEM (with the mark) (-120,---,-001,+000,+001, ---,+120)
<magnification -1>	2	10: X1 (normal), 15: X1.5, 20: X2, 30: X3, 40: X4, 50: X5
<magnification -2>	4	1000: X1 (normal) ~ 0625: X0.625 (VGA size)
<off on>	1	0: OFF, 1: ON
<no yes>	1	0: NOT SET, 1: SET
<picture mode>	3	NAT: NATURAL, DYN: DYNAMIC
<tv system>	3	AUT: AUTO, NTS: NTSC, N44: NTSC4.43: PAL: PAL, PAM: PAL-M, PAI SEC: SECAM
<installation>	1	1: FRONT 2: REAR, 3: CEILING/FRONT, 4: CEILING/REAR
<screen size>	1	0: 4:3 TYPE SCREEN, 1: 16:9 TYPE SCREEN
<language>	3	PT-L759A: ENG: ENGLISH, DEU: GERMAN, FRA: FRENCH, FSP: FRENCH, ITA: L CHINESE
		PT-L759U/E: ENG: ENGLISH, DEU: GERMAN, FRA: FRENCH, FSP: FRENCH, ITA: L JAPANESE
<power condition>	3	000: POWER OFF CONDITION, 001: POWER ON CONDITION

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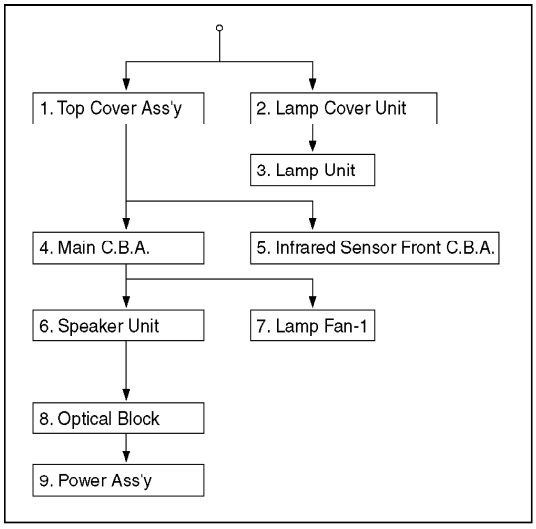
Parameter Format	Parameter Size	Parameter Definition
<mute>	1	0: MUTE OFF, AUDIO MUTE ON, 2: AUDIO/VIDEO MUTE ON (SHUTTE
<acctch>	4	DECIMAL SYSTEM (without the mark) (0000 ~ 9999) [UNIT: HOUR]
<lamp status>	1	0: STANDBY, 1: DURING LAMP LIGHTING-UP CONTROL, 2: LAMP ON CONDITION,3: DURING LAMP GOING-OUT CONTROL
<lamp off on>	1	0: LAMP OFF, 3: LAMP ON (1,2: NOT USED)

4. DISASSEMBLY/ASSEMBLY PROCEDURES

4.1. DISASSEBLY FLOWCHART OF CABINET PARTS

This flowchart indicates the disassembly steps of the cabinet parts and the P.C. Boards. When reassembling, perform the step(s) in the reverse order.

Fig. 4-1-1

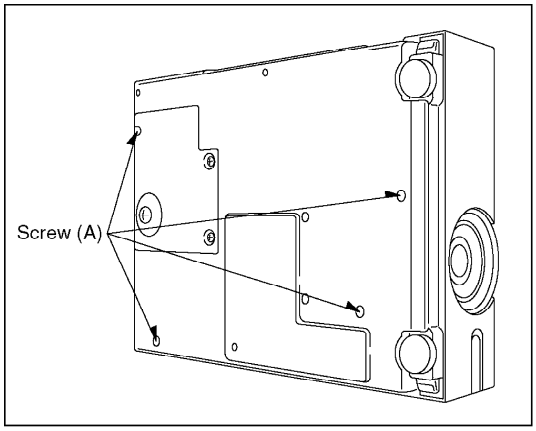


4.2. DISASSEMBLY METHOD OF CABINET PARTS

4.2.1. Removal of the Top Cover Ass'y

1. Remove 4 screws (A) as shown in Fig. 4-2-1.

Fig. 4-2-1



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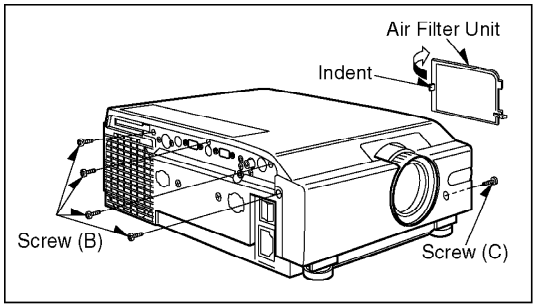
2. Remove 4 screws (B) as shown in Fig. 4-2-2.
3. Hold the indent on the Air Filter Unit and pull the Air Filter Unit out of the LCD projector.
4. Remove a screw (C).

Fig. 4-2-2



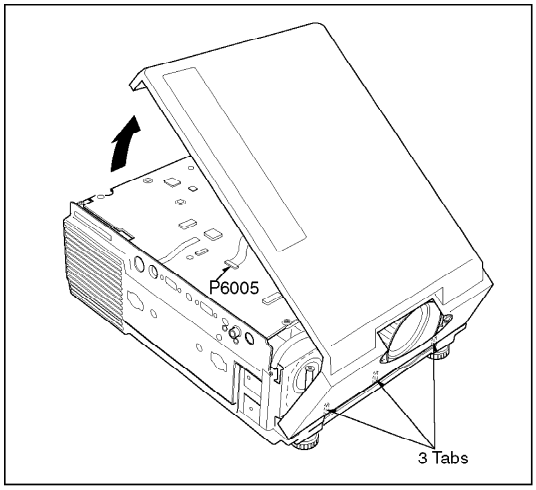
5. Lift up the Top Cover Ass'y carefully rotating in the direction of arrows shown in Fig. 4-2-3 and disconnect a connector P6005.

Caution

Be careful when lifting up the Top Cover Ass'y. A connector P6005 may be damaged if you pull it strongly.

6. Carefully pull out the Top Cover Ass'y paying attention to 3 tabs.

Fig. 4-2-3



4.2.2. Removal of the Lamp Cover Unit

1. Loosen 2 screws (D) as shown in Fig. 4-2-4.

Fig. 4-2-4

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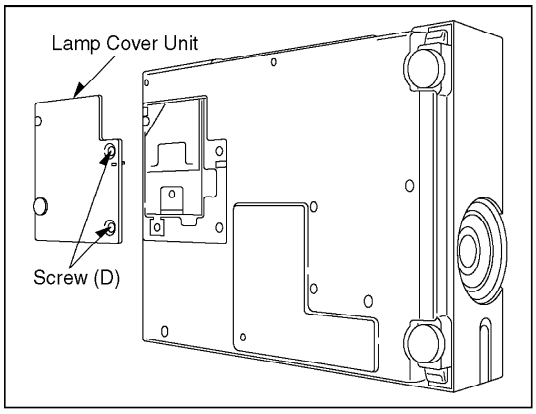


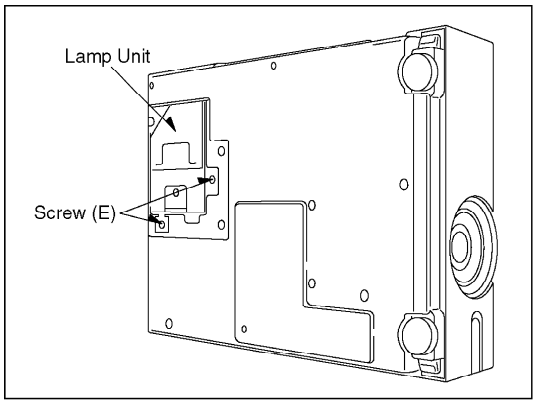
4.2.3. Removal of the Lamp Unit

1. Loosen 2 screws (E) as shown in Fig. 4-2-5.
2. Hold the handle of the Lamp Unit and carefully pull it out.

Caution:

Do not touch the Lamp House, Lamp Unit, etc. until they have completely cooled off.

Fig. 4-2-5



4.2.4. Removal of the Main C.B.A.

1. Remove 7 screws (F) as shown in Fig. 4-2-6.
2. Remove 2 screws (G).
3. Disconnect 11 connectors P1902, P1903, P1905, P1906, P4001, P6001, P6002, P6004, P3501, P3502, P3503 on the Main C.B.A.

Fig. 4-2-6

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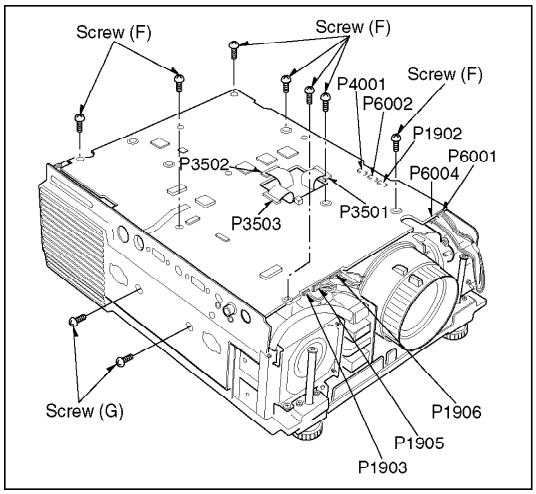
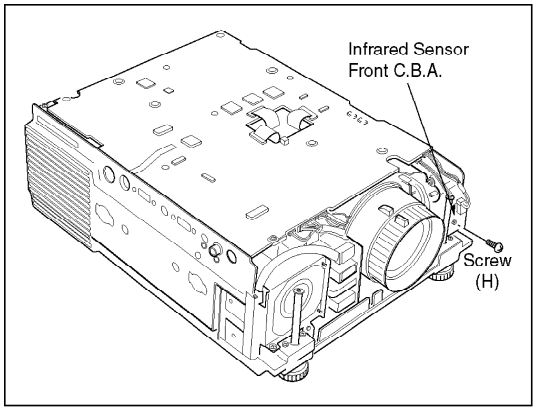


4.2.5. Removal of the Infrared Sensor Front C.B.A.

1. Remove a screw (H) as shown in Fig. 4-2-7.

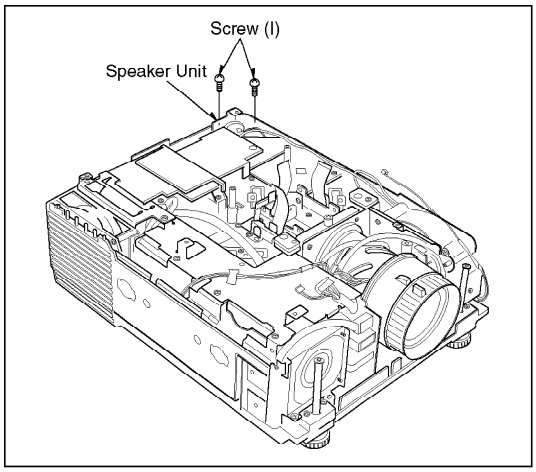
Fig. 4-2-7



4.2.6. Removal of the Speaker Unit

1. Remove 2 screws (I) as shown in Fig. 4-2-8.

Fig. 4-2-8



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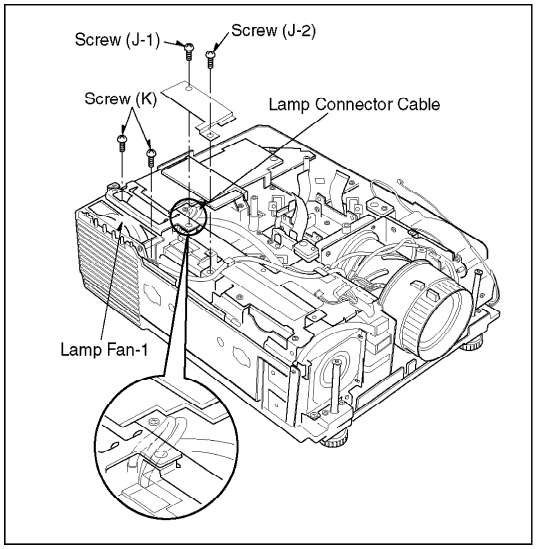
4.2.7. Removal of the Lamp Fan-1

1. Remove a screw (J-1), a screw (J-2) and 2 screws (K) as shown in Fig. 4-2-9.

Fig. 4-2-9

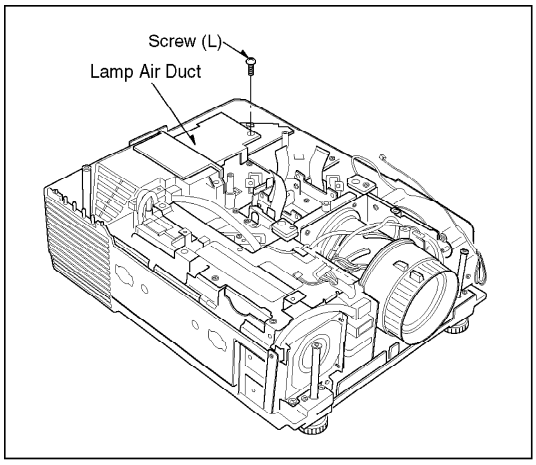


Assembly Note:
Make sure that the Lamp Connector Cable is in the original position as shown in Fig. 4-2-9.

4.2.8. Removal of the Optical Block

1. Remove a screw (L) as shown in Fig. 4-2-10 and remove the Lamp Air Duct.

Fig. 4-2-10



2. Remove a screw (M) and 2 screws (N) as shown in Fig. 4-2-11 and remove the Connector stay, the Lamp Connector and the Lamp House.

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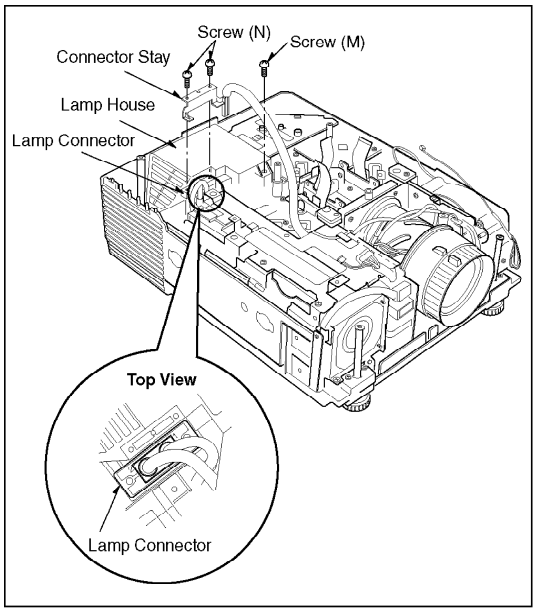
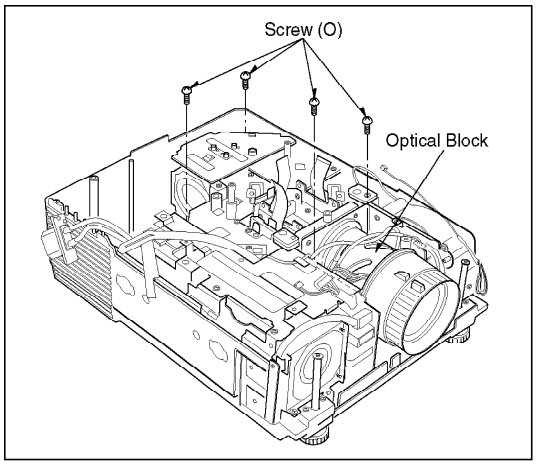
Fig. 4-2-11



3. Remove 4 screws (O) as shown in Fig. 4-2-12.

Fig. 4-2-12



Assembly Note:
When installing the Lamp Connector and the Connector stay, insert the Lamp Connector in the direction shown in Fig. 4-2-11.

4.2.9. Removal of the Power Ass'y

1. Remove 4 screws (P) as shown in Fig. 4-2-13.

Fig. 4-2-13

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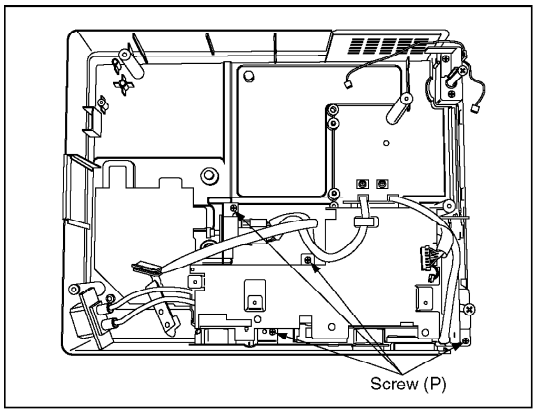
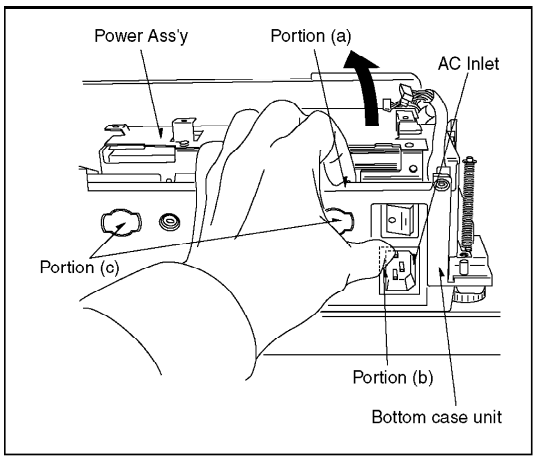


2. Pulling the Portion (a) of the Bottom Case Unit, press the Portion (b) on the AC Inlet, as shown in Fig. 4-2-14, and release the Power Ass'y rotating in the direction of arrow and pull it upward.

Note:
Be careful when rotating the Power Ass'y so as not to damage the Portion (c).

Fig. 4-2-14



4.3. DISASSEBLY FLOWCHART OF OPTICAL UNIT

This flowchart indicates the disassembly steps of the main parts of Optical Unit. When reassembling, perform the step(s) in the reverse order.

Fig. 4-3-1

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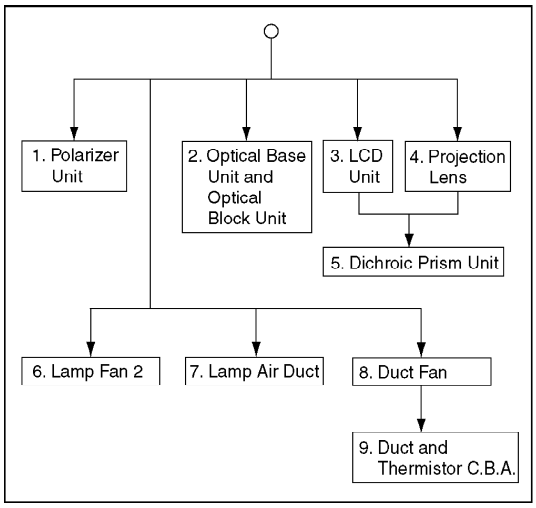

1. Polarizer Unit
2. Optical Base Unit and Optical Block Unit
3. LCD Unit
4. Projection Lens
5. Dichroic Prism Unit
6. Lamp Fan 2
7. Lamp Air Duct
8. Duct Fan
9. Duct and Thermistor C.B.A.

4.4. DISASSEMBLY METHOD OF OPTICAL UNIT

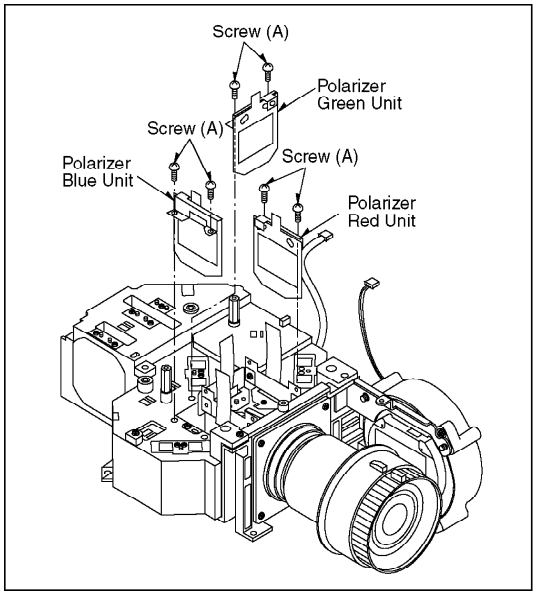
4.4.1. Removal of the Polarizer Units

1. **Remove 6 screws (A) to remove the Polarizer Red Unit, the Polarizer Green unit and the Polarizer Blue Unit as shown in Fig. 4-4-1.**

Note:

1. **Use extreme care not to damage the Polarizer Units, when servicing.**
2. **Make sure that no dust gets on the Polarizer Units. Clean the Polarizer Units with cleaning paper moistened with lens cleaner if necessary.**

Fig. 4-4-1



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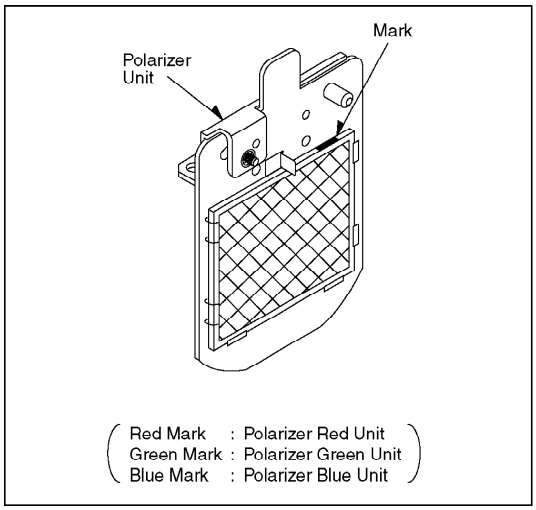
Assembly Note:

1. **After replacing the Polarizer Unit, adjustment is necessary (Refer to 5.1. Initial Guide Line).**
2. **Make sure of the Mark color to distinguish the Polarizer Unit (Red, Green, Blue) as shown in Fig. 4-4-2.**

Fig. 4-4-2



4.4.2. Removal of the Optical Base Unit and Optical Block Unit

1. **Remove 4 screws (B) as shown in Fig. 4-4-3.**
2. **Lift the Optical Block Unit up to release 4 projections.**

Fig. 4-4-3

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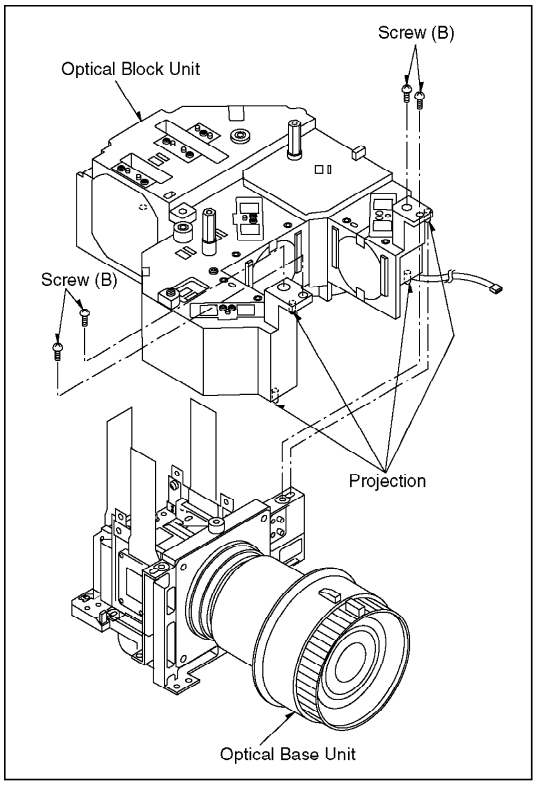

4.4.3. Removal of the LCD Unit (RED/ GREEN/ BLUE)

- Removal of the LCD Green Unit

1. Remove 2 screws (C) and 2 washers (C) to remove the LCD Green Unit as shown in Fig. 4-4-4.

- Removal of the LCD Red Unit

1. Remove 3 screws (D) and 3 washers (D) to remove the LCD Red Unit as shown in Fig. 4-4-4.

- Removal of the LCD Blue Unit

1. Remove 3 screws (E) and 3 washers (E) to remove the LCD Blue Unit as shown in Fig. 4-4-4.

Note:

1. After replacing the LCD Unit, adjustment is necessary (Refer to 5.1. Initial Guide Line).
2. Make sure that no dust gets on the surface of the LCD and the Sapphire Polarizer. Clean those surface with a cotton swap moistened with ethyl alcohol if necessary.

Fig. 4-4-4

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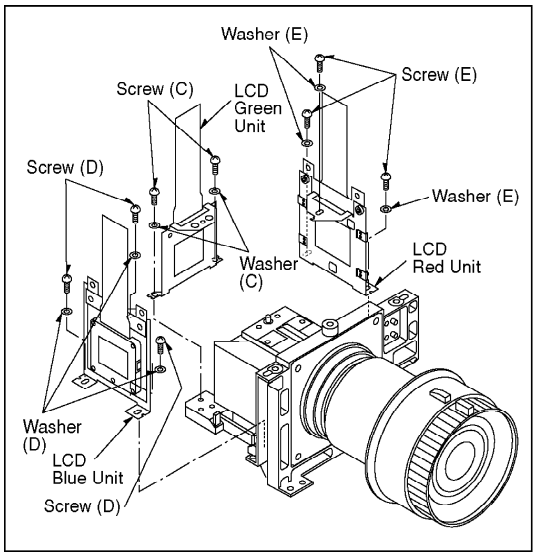

3. When removal of the LCD Unit, refer to following procedures.

A. Remove the Top Cover Ass'y (Refer to 4.2.1. Removal of the Top Cover Ass'y).

B. Remove the Main C.B.A. (Refer to 4.2.4. Removal of the Main C.B.A.).

Important Notes:

There are 2 types of LCD Panel for each LCD Unit. (LCD Green, Red and Blue) Be sure to confirm the color of the printed character on the flexible cable of the LCD Unit to decide which part number to order (refer to Fig. 4-4-5). (Please refer tothe following table after checking the printed character color.) If difference types of the LCD Panel are used, a non-uniformity color will appear on the screen.

LCD Unit	Part No.	Color of characters printed	
		Black	Red
LCD Green Unit	LSXA0305	○	
	LSXA0308		○
LCD Red Unit	LSXA0304	○	
	LSXA0307		○
LCD Blue Unit	LSXA0306	○	
	LSXA0309		○

Fig. 4-4-5

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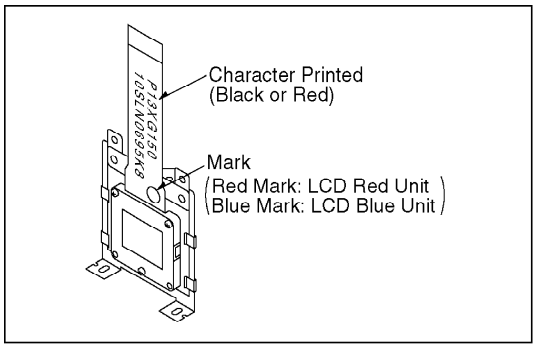
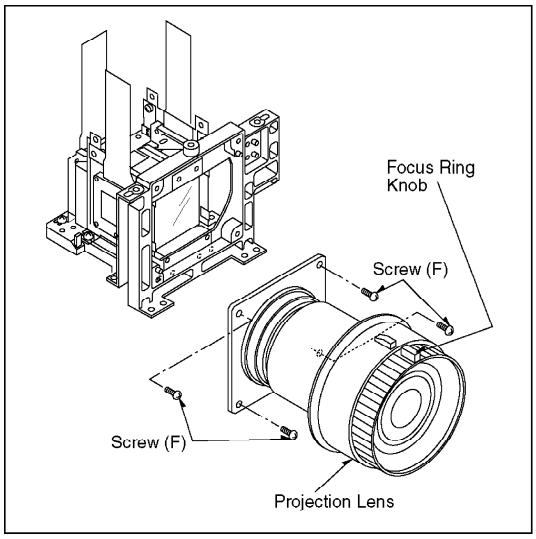


4.4.4. Removal of the Projection Lens

1. Remove 4 screws (F) to remove the Projection Lens as shown in Fig. 4-4-6.

Note:
Make sure that no dust gets on the Projection Lens. Clean the Projection Lens with cleaning paper moistened with lens cleaner if necessary.
(Refer to 3.5. Cleaning the Projection Lens.)

Fig. 4-4-6



Assembly Note:
When assembling the Projection Lens, attach the Focus Ring Knob so that it faces upward.

4.4.5. Removal of the Dichroic Prism Unit

1. 1. Remove 6 screws (G) to remove the Dichroic Prism Unit as shown in Fig. 4-4-7.

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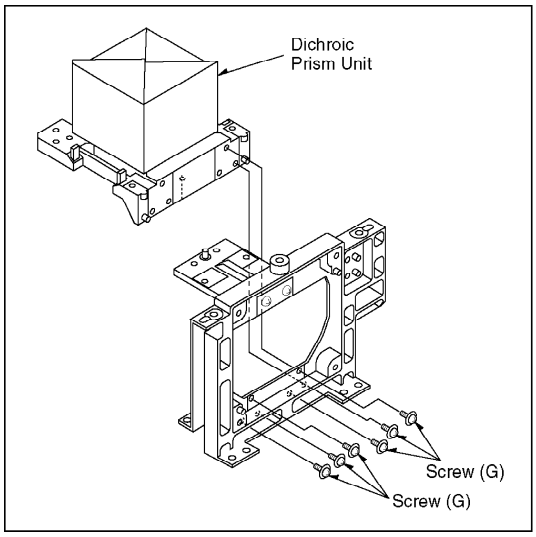
Note:
Make sure that no dust gets on the Dichroic Prism Unit. Clean the Dichroic Prism Unit with cleaning paper moistened with lens cleaner if necessary.

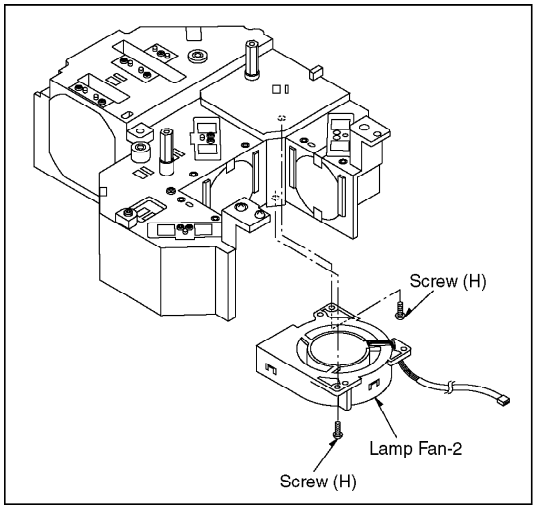
Fig. 4-4-7



4.4.6. Removal of the Lamp Fan-2

1. Remove 2 screws (H) to remove the Lamp Fan-2 as shown in Fig. 4-4-8.

Fig. 4-4-8



4.4.7. Removal of the Lamp Air Duct

1. Remove 3 screws (I) to remove the Lamp Air Duct as shown in Fig. 4-4-9.

Fig. 4-4-9

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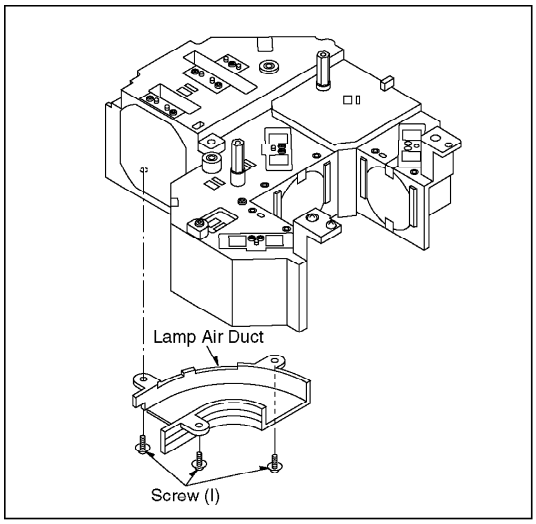
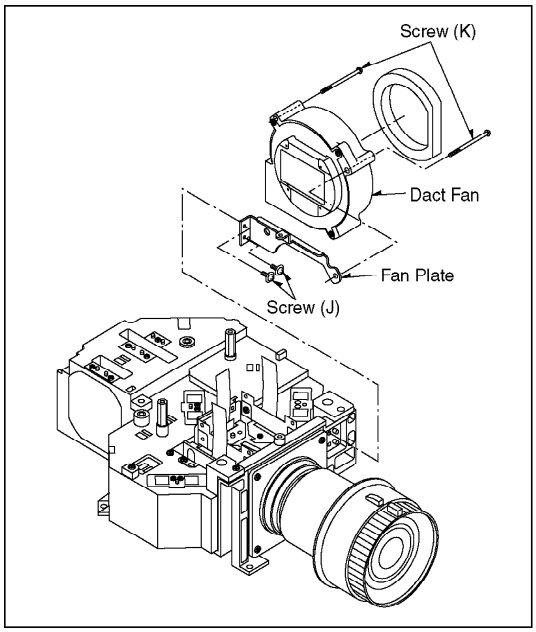


4.4.8. Removal of the Duct Fan

1. Remove 2 screws (J) to remove the Duct Fan along with the Fan Plate as shown in Fig. 4-4-10.
2. Remove 2 screws (K) to remove the Duct Fan from the Fan Plate.

Fig. 4-4-10



4.4.9. Removal of the Duct and Thermistor C.B.A.

1. Remove 3 screws (L) to remove the Duct along with the Thermistor C.B.A as shown in Fig. 4-4-11.
2. Remove 3 screws (M) to remove the Duct Cover.
3. Then remove a screw (N) to remove the thermistor C.B.A.

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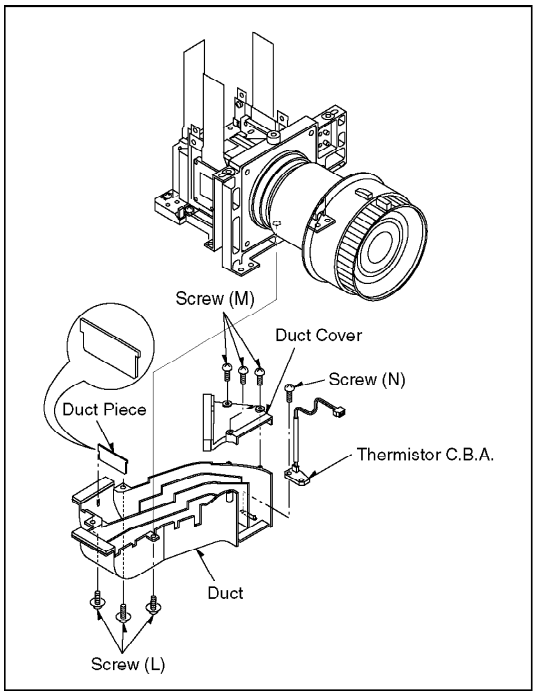
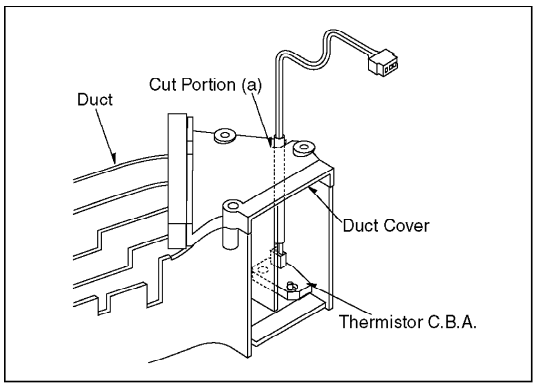
Fig. 4-4-11



Assembly Note:

1. **Confirm the direction of the Duct Piece when installing it.**
2. **Insert the lead wire of Thermistor C.B.A. in the cut portion (a) of the Duct Cover as shown in the Fig. 4-4-12.**

Fig. 4-4-12



4.5. DISASSEBLY FLOWCHART OF POWER ASS'Y

This flowchart indicate the disassembly steps of the main parts of the main power ass'y. When reassembling, perform the step(s) in the reverse order.

Fig. 4-5-1

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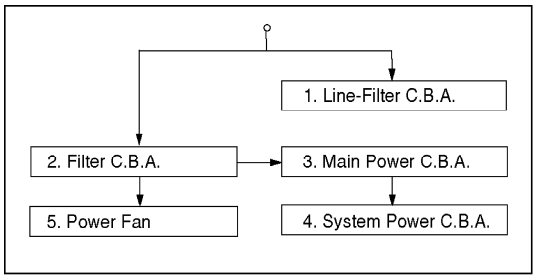
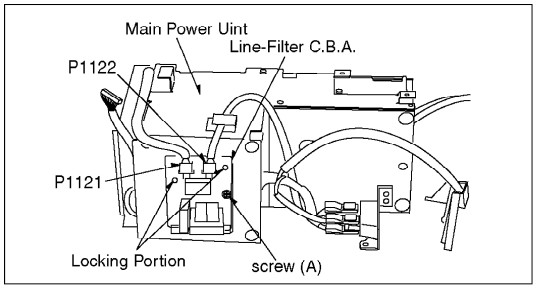


4.6. DISASSEMBLY METHOD OF POWER ASS'Y

4.6.1. Removal of the Line-Filter C.B.A.

1. Disconnect 2 connectors P1121 and P1122 as shown in Fig. 4-6-1.
2. Remove a screw (A).
3. Release 2 Locking Portions to remove the LIne-Filter C.B.A.

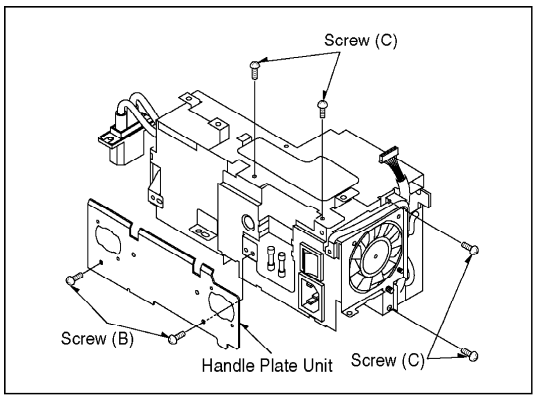
Fig. 4-6-1



4.6.2. Removal of the FIlter C.B.A.

1. Remove 2 screws (B) and remove the Handle Plate Unit as shown in Fig. 4-6-2.
2. Remove 4 screws (C).

Fig. 4-6-2



3. Disconnect connector P1702 to remove the Filter C.B.A. as shown in Fig. 4-6-3.

Fig. 4-6-3

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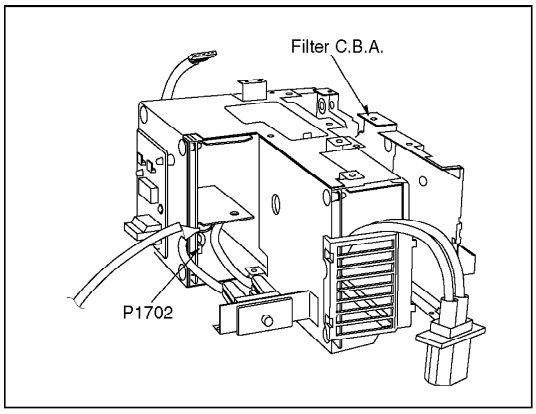
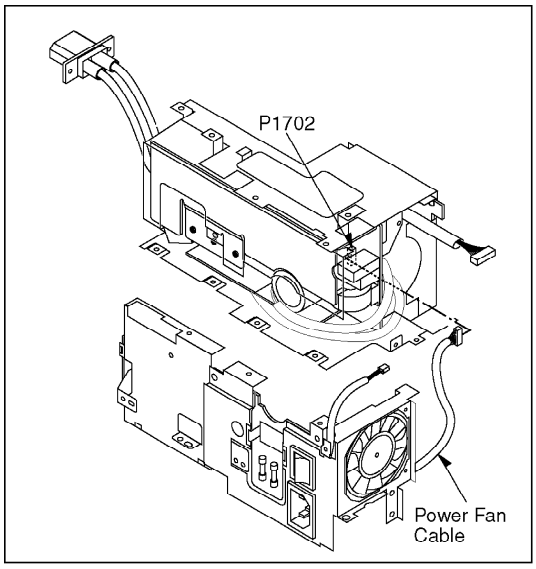


Assembly Note:
Insert the Power Fan Cable as shown in Fig. 4-6-4, and connect a connector P1702.

Fig. 4-6-4



4.6.3. Removal of the Main Power C.B.A.

1. Disconnect connectors P1201, P1202, P1302 as shown in Fig. 4-6-5.

Fig. 4-6-5

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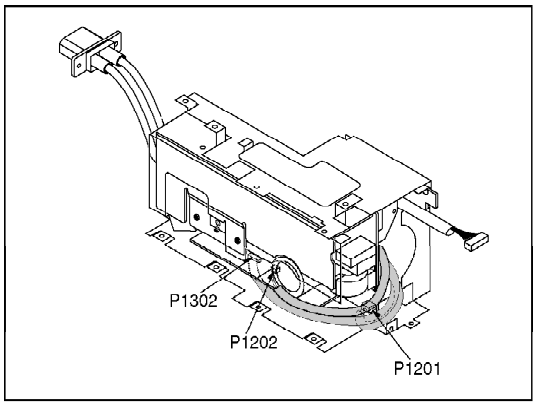
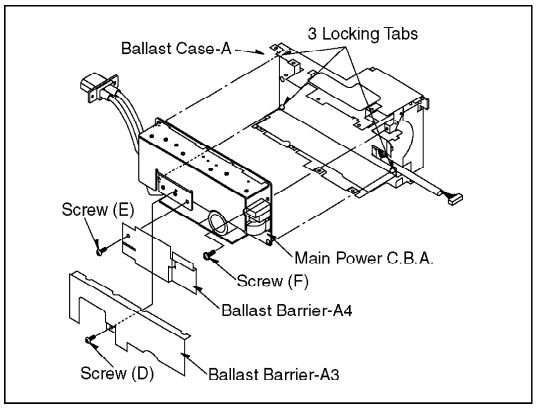


2. Remove a screw (D) to remove the Ballast Barrier-A3 as shown in Fig. 4-6-6.

3. Remove a screw (E) to remove the Ballast Barrier-A4.

4. After remove a screw (F), release 3 Locking Tabs to remove the Main Power C.B.A. as shown in Fig. 4-6-6.

Fig. 4-6-6



Assembly Note:
Make sure that all cables and leads are placed in their original position as shown in Fig. 4-6-5.

4.6.4. Removal of the System Power C.B.A.

1. Remove the Ballast Barrier-A1.
After remove a screw (G), unlock 3 Locking Tabs to remove the System Power C.B.A. as shown in Fig. 4-6-7.

Fig. 4-6-7

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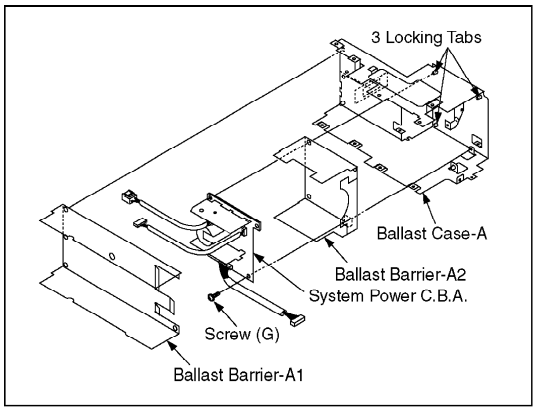
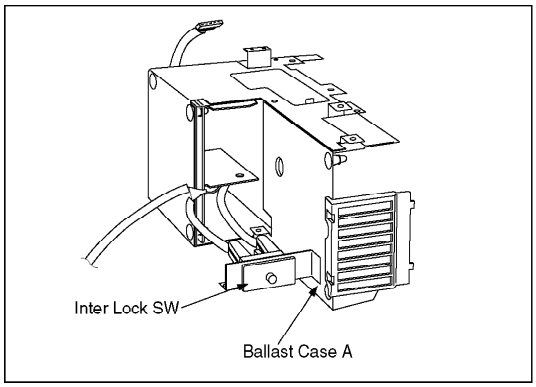


2. Disconnect the cable (4 pins) from the terminal of Inter Lock SW as shown in Fig. 4-6-8.

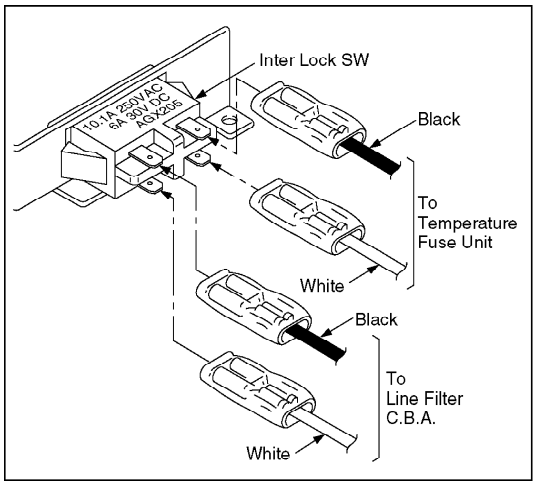
Fig. 4-6-8



Assembly Note:

1. Insert the cable (4 pins) correctly to the terminal of Inter Lock SW as shown in Fig. 4-6-9.

Fig. 4-6-9



2. Make sure that all cables and leads are placed in their original position as shown in Fig. 4-6-10.

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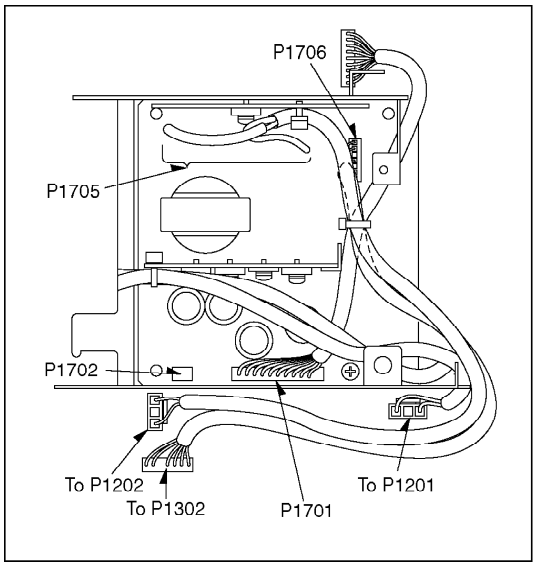
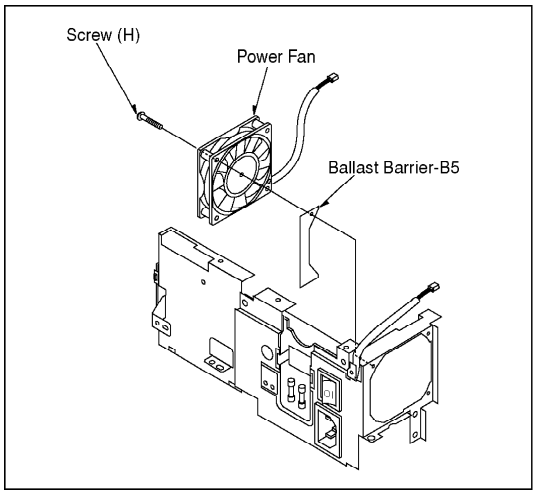
Fig. 4-6-10



4.6.5. Removal of the Power Fan

1. Remove a screws (H) to remove the Power Fan as shown in Fig. 4-6-11.

Fig. 4-6-11



5. ADJUSTMENT PROCEDURES

5.1. INITIAL GUIDE LINE

The tables below show adjustments which will be necessary according to the unit parts and optical parts to be replaced.Make sure to perform these adjustments shown below as necessary .

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If you replace:	Adjustments
MAIN C.B.A.	5-4-1, 5-4-2, 5-4-3, 5-4-4,
LCD GREEN UNIT	5-4-1, 5-4-2, 5-4-3, 5-4-4, 5-4-5, 5-4-6, 5-4-7, 5-4-8
LCD RED UNIT	5-4-1, 5-4-2, 5-4-3, 5-4-4, 5-4-6, 5-4-8
LCD BLUE UNIT	5-4-1, 5-4-2, 5-4-3, 5-4-4, 5-4-7, 5-4-8
POLARIZER UNIT	5-4-9
OPTICAL BLOCK UNIT	(5-4-4), 5-4-9, (5-4-10)

List of necessary adjustments	
5-4-1	LCD COMMON ADJUSTMENT
5-4-2	BLACK LEVEL ADJUSTMENT
5-4-3	WHITE LEVEL ADJUSTMENT
5-4-4	WHITE BALANCE ADJUSTMENT
5-4-5	GREEN FOCUS ADJUSTMENT
5-4-6	RED FOCUS ADJUSTMENT
5-4-7	BLUE FOCUS ADJUSTMENT
5-4-8	LCD CONVERGENCE ADJUSTMENT
5-4-9	POLARIZER ADJUSTMENT
5-4-10	FULL MIRROR ADJUSTMENT

Notes:

1. **( ) : Items which need the confirmation when replaced.**
2. **LCD Green Unit is fixed for reference for convergence adjustment. Adjust LCD Red Unit for R-G Convergence Adjustment. Adjust LCD Blue Unit for B-G Convergence Adjustment.**

If you replace:	Necessary adjustment	
	R-G / Convergence / Adjustment	B-G / Convergence / Adjustment
LCD Green Unit	○	○
LCD Blue Unit		○
LCD Red Unit	○	

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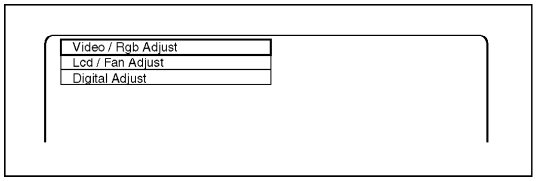
3. When any adjustments 5.4.1. through 5.4.4., 5.4.11. and 5.4.12. are necessary, please refer to“Preparation for Adjustments 5.4.1. through 5.4.4., 5.4.11. and 5.4.12.”.
4. When any adjustments 5.4.13 through 16 are necessary, please refer to“Preparation for Adjustments 5.4.13. through 5.4.16.”.

5.1.1. The Factory Adjust Mode

All Electrical Adjustments are performed on the Factory Adjust Mode which is used remote control unit instead of variable resistor to control the adjustment value.

1. Connect a jumper wire between TP6014 and TP6015 on Main C.B.A. for over 5 seconds to enter the Factory Adjust Mode.
2. Press the remote control▲ or▼ to select and press◀ or▶ button to set the item to be adjusted.

Fig. 5-1-1



Note:
Do not adjust all items in“Digital Adjust”, and NRS-H, GAMMA R, G and B in“Lcd/Fan Adjust, and DVCO, TINT and COLOR in“Video/Rgb Adjust”.

Fig. 5-1-2

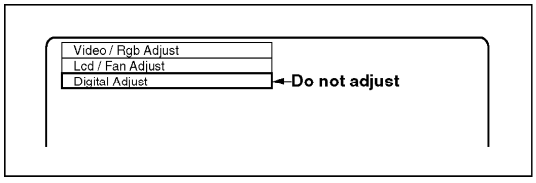


Fig. 5-1-3

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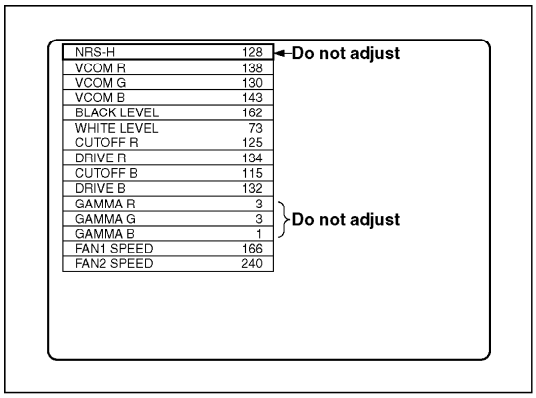
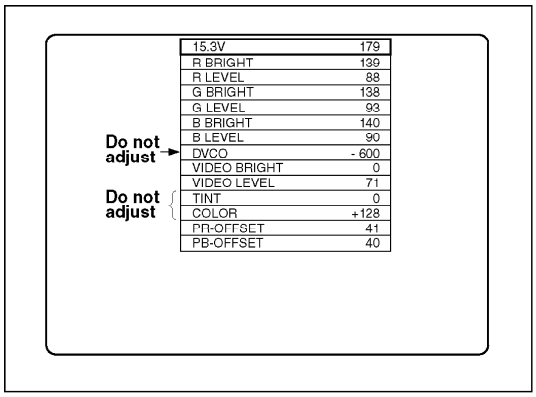


Fig. 5-1-4



5.2. TEST EQUIPMENT

To do all of these adjustments, the following equipment is required.

1. Dual-Trace Oscilloscope
Voltage Range : 0.001~50 V/Div.
Frequency Range : DC~50 MHz
Probes : 10:1, 1:1

2. NTSC Video Pattern Generator

3. Plastic Tip Driver and Non-Metal Driver

4. (+) Screwdriver and (-) Screwdriver

5. Hexagon Wrench (2.5 mm)

6. Standard Screen

7. DVM (Digital Volt Meter)

8. Programmable Video Signal Generator

9. Test pattern signal (not supplied)

5.3. HOW TO READ THE ADJUSTMENT PROCEDURES

Fig. 5-3-1

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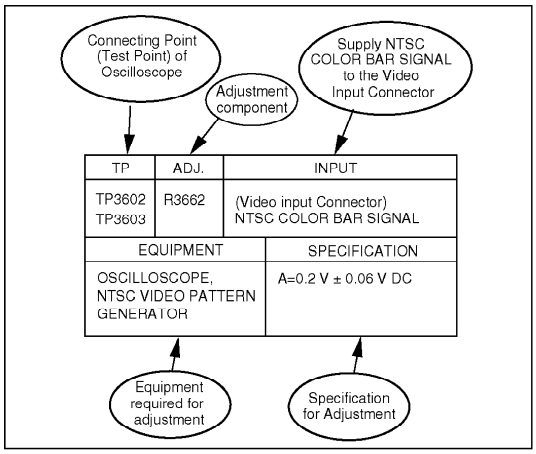
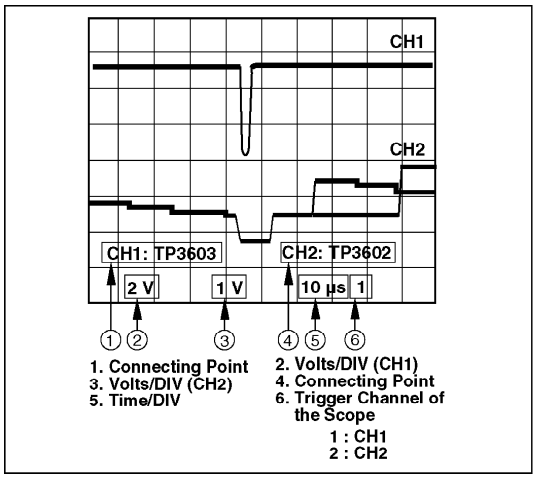


Fig. 5-3-2



5.4. ADJUSTMENT PROCEDURES

Preparation for Adjustments 5.4.1. through 5.4.4., 5.4.11. and 5.4.12.

1. Connect a jumper wire between TP6014 and TP6015 on Main C.B.A. for over 5 seconds to set to the Factory Adjust Mode.

2. Press▲ or▼ button on remote control to select“Lcd/Fan Adjust” mode, and press◀ or▶ button to set to“Lcd/Fan Adjust” mode.

Fig. 5-4-1

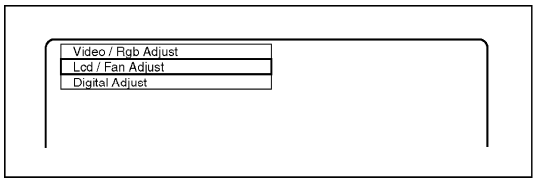


Fig. 5-4-2

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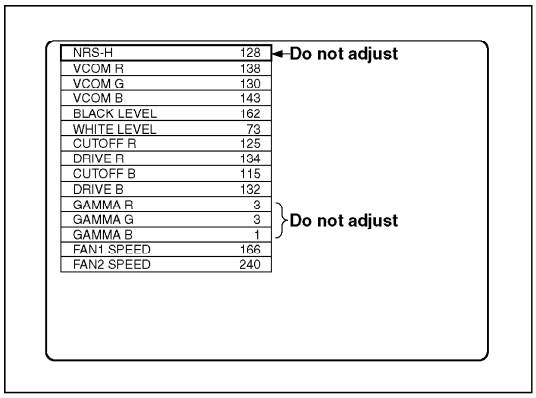


3. **After completing adjustments 5.4.11. through 5.4.4., 5.4.11. and 5.4.12., press the“ MENU” button to release from“Lcd/Fan Adjust” mode. (Adjustment data is memorized in EEPROM IC (IC6009,IC6010) by pressing“ MENU” button.) Otherwise, adjustment data 5.4.1. through 5.4.4., 5.4.11. and 5.4.12. will be cancelled.**

Preparation for Adjustments 5.4.13. through 5.4.16.

1. **Connect a jumper wire between TP6014 and TP6015 on Main C.B.A. for over 5 seconds to set to the Factory Adjust Mode.**
2. **Press▲ or▼ button on remote control to select“Video/Rgb Adjust” mode, and press◀ or▶ button to set to“Video/Rgb Adjust” mode.**

Fig. 5-4-3

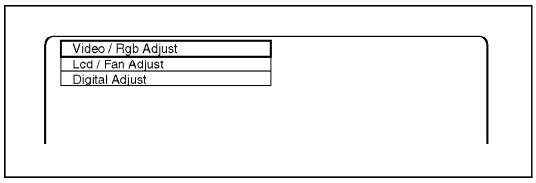
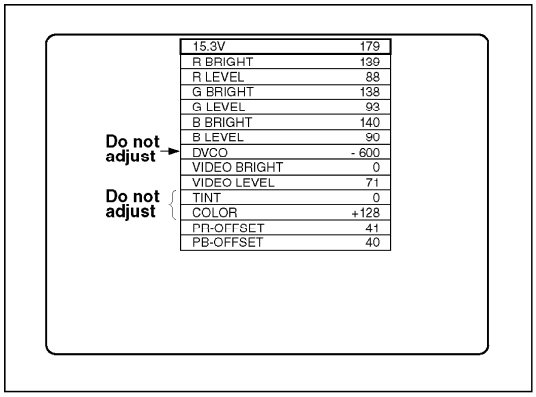


Fig. 5-4-4



3. **After completing adjustments 5.4.13. through 5.4.16, press the“**

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MENU" button to release from"Video/Rgb Adjust" mode. (Adjustment data is memorized in EEPROM IC(IC6009, IC6010) by pressing" MENU" button.) Otherwise, adjustment data 5.4.13. through 5.4.16. will be cancelled.

5.4.1. LCD COMMON ADJUSTMENT

Purpose:
To set the optimum LCD common voltage.

Symptom of Misadjustment:
The picture will be bluish or reddish.

TP	ADJ.	INPUT
		(RGB2 Input Connector) 70 % Red Horizontal Signal 70 % Green Horizontal Signal 70 % Blue Horizontal Signal
EQUIPMENT		SPECIFICATION
TEST PATTERN SIGNAL		Refer to Description below

Note:
This adjustment should be done in a darkroom.

1. **Supply 70% Red Horizontal Signal and project on the screen.**
2. **Press▲ or▼ button on remote control to select"VCOM R".**
3. **Press◀ or▶ button so that the flicker on the whole screen becomes minimal.**
4. **Supply 70% Green Horizontal Signal and project on the screen.**
5. **Press▲ or▼ button on remote control to select"VCOM G".**
6. **Press◀ or▶ button so that the flicker on the whole screen becomes minimal.**
7. **Supply 70% Blue Horizontal Signal and project on the screen.**
8. **Press▲ or▼ button remote control to select"VCOM B".**
9. **Press◀ or▶ button so that the flicker on the whole screen becomes minimal.**

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Note:
When the flicker is hard to see in the screen in step 1, 4, 7, press▲ or▼ button on remote control to select“BLACK LEVEL”,and press◀ or▶ button so that it appears.However, be sure to return“BLACK LEVEL” to previous valueafter LCD COMMON adjustment.

5.4.2. BLACK LEVEL ADJUSTMENT

Purpose:
To set the optimum signal level.

Symptom of Misadjustment:
The picture will be too light or too dark.

TP	ADJ.	INPUT
TP3505		(RGB2 Input Connector) GRAY SCALE PATTERN SIGNAL (3 SCALE)
EQUIPMENT		SPECIFICATION
OSCILLOSCOPE TEST PATTERN SIGNAL		A=2.0 V ± 0.05 V DC

Note:
TP3505: Main C.B.A.

1. Supply Gray Scale Pattern Signal (3 scales).

2. Press▲ or▼ button on remote control to select“BLACK LEVEL”.

3. Press◀ or▶ button so that level A becomes 2.0 V± 0.05 V DC.

Fig. 5-4-5

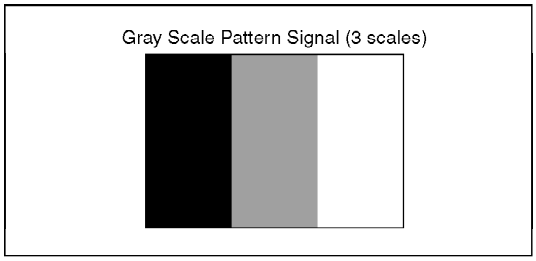

Fig. 5-4-6

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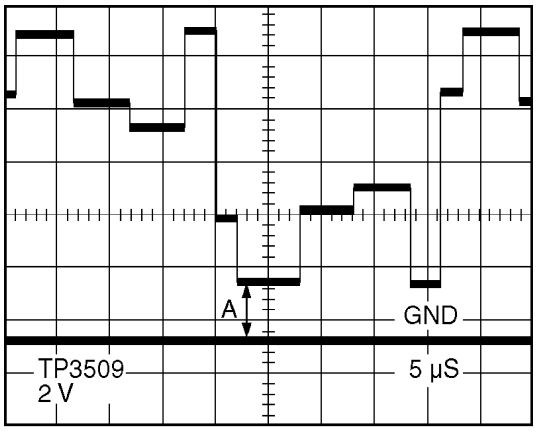


5.4.3. WHITE LEVEL ADJUSTMENT

Purpose:
To set the optimum signal level.

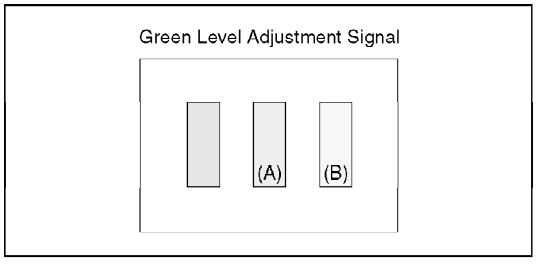
Symptom of Misadjustment:
The picture will be too light or too dark.

TP	ADJ.	INPUT
		(RGB2 Input Connector) GREEN LEVEL ADJUSTMENT SIGNAL
EQUIPMENT		SPECIFICATION
TEST PATTERN SIGNAL		Refer to Description below

Note:
This adjustment should be done in a darkroom.

1. **Supply Green Level Adjustment Signal and project on the screen.**
2. **Press▲ or▼ button on remote control to select“WHITE LEVEL”.**
3. **Press◀ or▶ button so that Portion (B) are invisible and Portion (A) are visible on the screen.**

Fig. 5-4-7



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5.4.4. WHITE BALANCE ADJUSTMENT

Purpose:
To set the standard white level for each color temperature.

Symptom of Misadjustment:
White will become bluish or reddish.
This adjustment should be done in a darkroom.

TP	ADJ.	INPUT
		(VIDEO Input Connector) GRAY SCALE PATTERN SIGNAL (10 scales)
EQUIPMENT		SPECIFICATION
NTSC VIDEO PATTERN GENERATOR		Refer to Description below

Note:
This adjustment should be done in a darkroom.

1. **Supply Gray Scale Pattern Signal (10 scales) and Project on the screen.**
2. **Press▲ or▼ button on remote control to select“CUTOFF R” or“CUTOFF B”.**
3. **Press◀ or▶ button to adjust“CUTOFF R” or“CUTOFF B” so that the area around 3rdand 4th scale (A) becomes pure gray with no red or blue tint.**
4. **Press▲ or▼ button on remote control to select“DRIVE R” or“DRIVE B”.**
5. **Press◀ or▶ button to adjust“DRIVE R” or“DRIVE B” so that the area around 7th and8th scale (B) becomes pure gray with no red or blue tint.**
6. **Repeat step 2 through 5 so that all the scales become pure gray with no red or blue tint.**

Fig. 5-4-8

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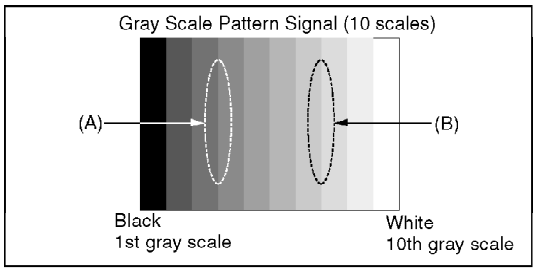

Note:
After completing adjustments, press the" MENU" button to release from"Lcd/Fan Adjust" mode. (Adjustment data is memorized in EEPROM IC (IC6009, IC6010) by pressing" MENU" button.) Otherwise, adjustment data 5.4.1. through 5.4.4. will be cancelled.

5.4.5. GREEN FOCUS ADJUSTMENT

Purpose:
To set the focus over the whole screen.

Symptom of Misadjustment:
The picture will be out of focus.

TP	ADJ.	INPUT
	LCD GREEN UNIT	(RGB2 Input Connector) GREEN CROSSHATCH PATTERN SIGNAL
EQUIPMENT		SPECIFICATION
TEST PATTERN SIGNAL		Refer to Description below

1. **Supply Green crosshatch pattern signal and Project on the screen.**
2. **Rotate the zoom ring on the projection lens to the wide setting.**
3. **Rotate the focus ring and adjust the focus on the lower center of the screen (Portion (1)).**
4. **Loosen screws (A) and (B) of LCD Green Unit.**
5. **Insert a (-) screwdriver into Portion (a) and twist it to adjust the focus on the upper right portion of the screen (Portion (2)). After the adjustment, tighten screw (A) slightly.**
6. **Insert a (-) screwdriver into Portion (b) and twist it to adjust the focus on the upper left portion of the screen (Portion (3)). After the adjustment, tighten screw (B) slightly.**

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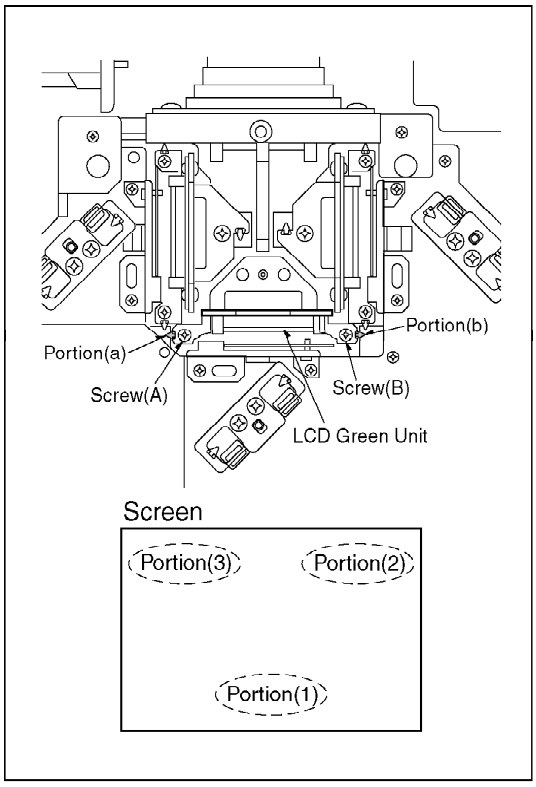
7. **Confirm that the lower center portion of the screen (Portion (1)) is in focus. If it is out of focus, repeat steps 3 through 6.**
8. **Confirm that the whole screen is in focus, and then tighten screws (A) and (B).**

Fig. 5-4-9



Note:
Do not rotate the focus ring which is set in step 3 until both Blue and Red focus adjustment are completed.

5.4.6. RED FOCUS ADJUSTMENT

Purpose:
To set the focus over the whole screen.

Symptom of Misadjustment:
The picture will be out of focus.

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TP	ADJ.	INPUT
	LCD RED UNIT	(RGB2 Input Connector) RED CROSSHATCH PATTERN SIGNAL
EQUIPMENT		SPECIFICATION
TEST PATTERN SIGNAL		Refer to Description below

Set Up :

● **If you replace LCD Red Unit, perform**

- Supply Green Crosshatch Pattern Signal and project on the screen.

- Rotate the focus ring so that the whole screen is in focus.

1. Supply Red Crosshatch Pattern Signal and project on the screen.

2. Loosen screws (A), (B) and (C) of LCD Red Unit.

3. Insert a (-) screwdriver into Portion (a) and twist it to adjust the focus on the lower center portion of the screen (Portion (1)). After the adjustment, tighten screw (A) slightly.

4. Insert a (-) screwdriver into Portion (b) and twist it to adjust the focus on the upper right portion of the screen (Portion (2)). After the adjustment, tighten screw (B) slightly.

5. Insert a (-) screwdriver into Portion (c) and twist it to adjust the focus on the upper left portion of the screen (Portion (3)). After the adjustment, tighten screw (C) slightly.

6. Confirm that the lower center portion of the screen (Portion (1)) is in focus. If it is out of focus, repeat steps 3 through 5.

7. Confirm that the whole screen is in focus, and then tighten screws (A), (B), and (C).

Fig. 5-4-10

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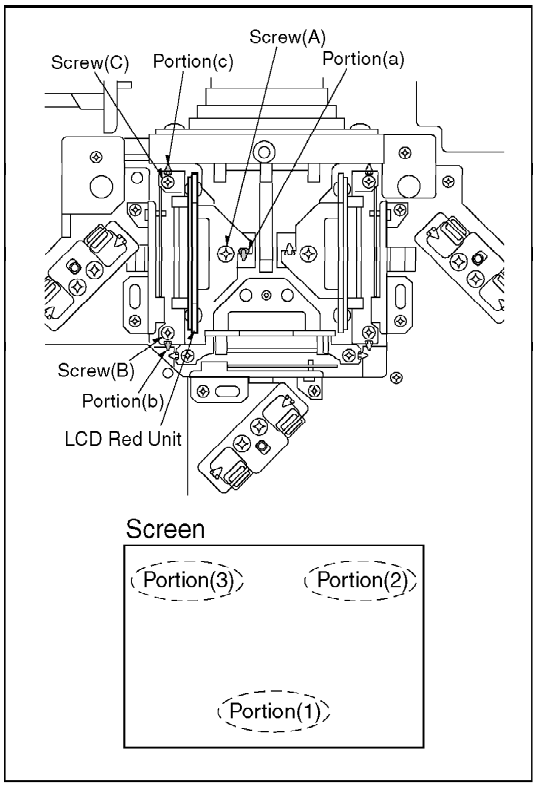

5.4.7. BLUE FOCUS ADJUSTMENT

Purpose:
To set the focus over the whole screen.

Symptom of Misadjustment:
The picture will be out of focus.

TP	ADJ.	INPUT
	LCD BLUE UNIT	(RGB2 Input Connector) BLUE CROSSHATCH PATTERN SIGNAL
EQUIPMENT		SPECIFICATION
TEST PATTERN SIGNAL		Refer to Description below

Set Up:

- **If you replace LCD Blue Unit, perform**

- Supply Green Crosshatch Pattern Signal and project on the screen.
- Rotate the focus ring so that the whole screen is in focus.

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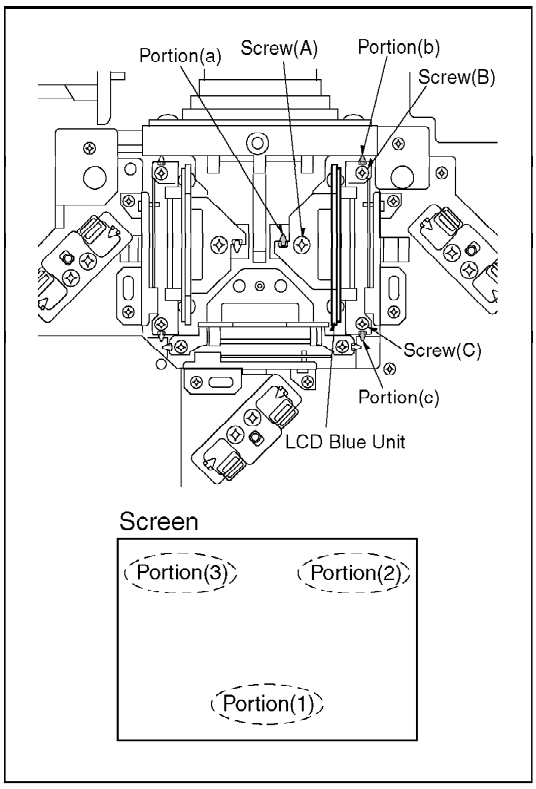
1. **Supply Blue Crosshatch Pattern Signal and project on the screen.**
2. **Loosen screws (A), (B) and (C) of LCD Blue Unit.**
3. **Insert a (-) screwdriver into Portion (a) and twist it to adjust the focus on the lower center portion of the screen (Portion (1)). After the adjustment, tighten screw (A) slightly.**
4. **Insert a (-) screwdriver into Portion (b) and twist it to adjust the focus on the upper right portion of the screen (Portion (2)). After the adjustment, tighten screw (B) slightly.**
5. **Insert a (-) screwdriver into Portion (c) and twist it to adjust the focus on the upper left portion of the screen (Portion (3))(3)). After the adjustment, tighten screw (C) slightly.**
6. **Confirm that the lower center portion of the screen (Portion (1)) is in focus. If it is out of focus, repeat steps 3 through 5.**
7. **Confirm that the whole screen is in focus, and then tighten screws (A), (B), and (C).**

Fig. 5-4-11



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5.4.8. LCD CONVERGENCE ADJUSTMENT

Purpose:
To set the uniform convergence over the whole screen.

Symptom of Misadjustment:
The convergence on the screen will vary.

TP	ADJ.	INPUT
	LCD BLUE UNIT LCD RED UNIT	(RGB2 Input Connector) CROSSHATCH PATTERN SIGNAL
EQUIPMENT		SPECIFICATION
TEST PATTERN SIGNAL		Refer to Description below

1. Supply Crosshatch Pattern Signal and project on the screen.

2. (R-G Adjustment)
Loosen 2 Hexagon screws (A) of LCD RED Unit as shown in Fig. 5-4-12. Grasp the Adjust Plate (a) and move the plate so that the Red line exactly overlaps the Green line as shown in Fig. 5-4-13.

3. Tighten 2 Hexagon screws (A) with a Hexagon Wrench.

4. (B-G Adjustment)
Loosen 2 Hexagon screws (B) of LCD BLUE Unit as shown in Fig. 5-4-13. Grasp the Adjust Plate (b) and move the plate so that the Blue line exactly overlaps the Green line as shown in Fig. 5-4-13.

5. Tighten 2 Hexagon screws (B) with a Hexagon Wrench.

Fig. 5-4-12

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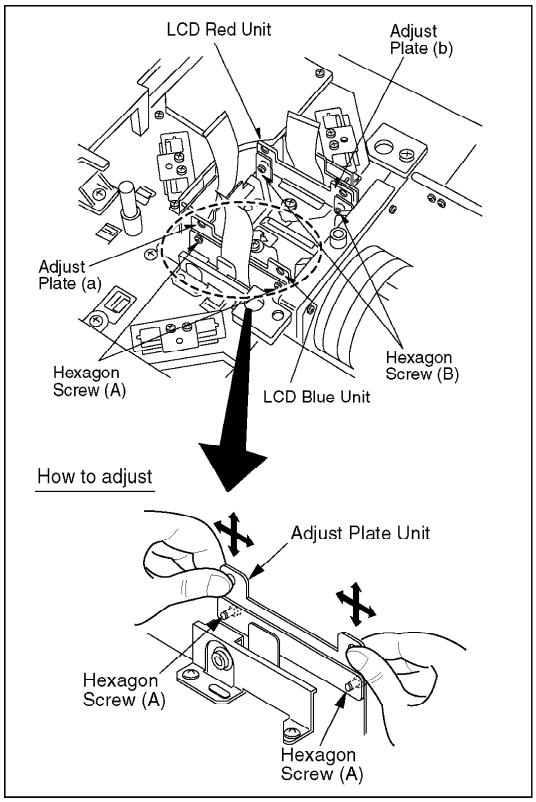
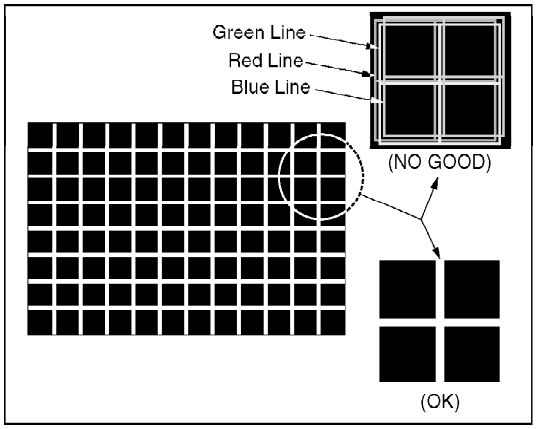


Fig. 5-4-13



Note:
Use a Hexagon Wrench (2.5mm) for Hexagon screw (A) and screw (B).

5.4.9. POLARIZER ADJUSTMENT

Purpose:
To set the polarizer in the proper position.

Symptom of Misadjustment:
The picture will become bluish or reddish or greenish.

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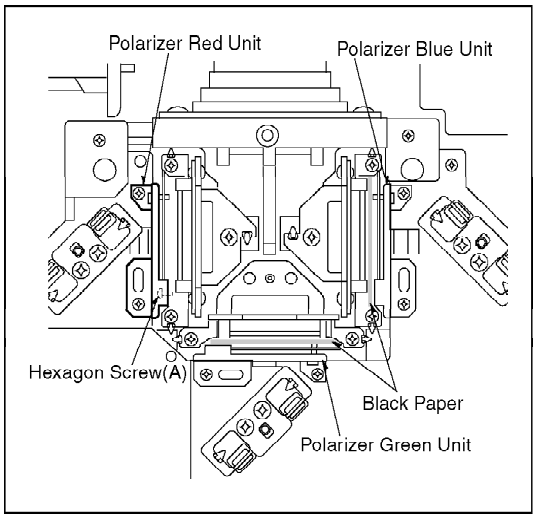
TP	ADJ.	INPUT
	POLARIZER RED POLARIZER GREEN POLARIZER BLUE	(RGB2 Input Connector) BLACK SIGNAL (0 %)
EQUIPMENT		SPECIFICATION
TEST PATTERN SIGNAL		Refer to Description below

- POLARIZER RED ADJUSTMENT

1. **Insert a black paper in the gap between the LCD Unit and the Polarizer Unit and shut out the light completely for the G and B light paths.**
2. **Supply Black Signal (0%) and project on the screen.**
3. **Loosen a Hexagon Screw (A) of Polarizer Red Unit.**
4. **Move the Polarizer Red Unit to the right and left so that the whole screen becomes the blackest possible value, and then tighten a Hexagon Screw (A) with a Hexagon Wrench.**

Fig. 5-4-14



- POLARIZER GREEN ADJUSTMENT

1. **Insert a black paper in the gap between the LCD Unit and the Polarizer Unit and shut out the light completely for the R and B light paths.**
2. **Supply Black Signal (0%) and project on the screen.**
3. **Loosen a Hexagon Screw (B) of Polarizer Green Unit.**
4. **Move the Polarizer Green Unit to the right and left so that the whole screen becomes the blackest possible value, and then**

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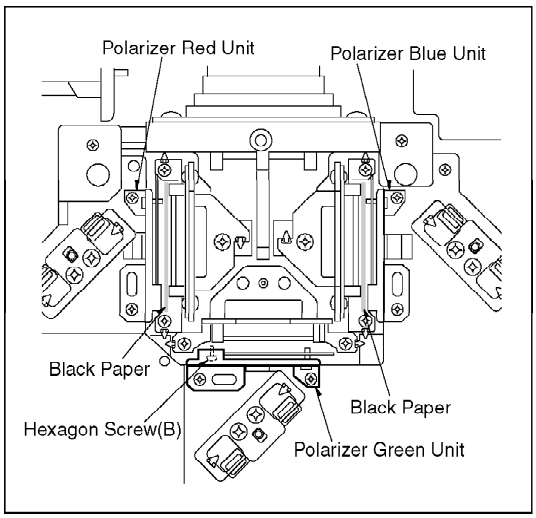
tighten a Hexagon Screw (B) with a Hexagon Wrench.

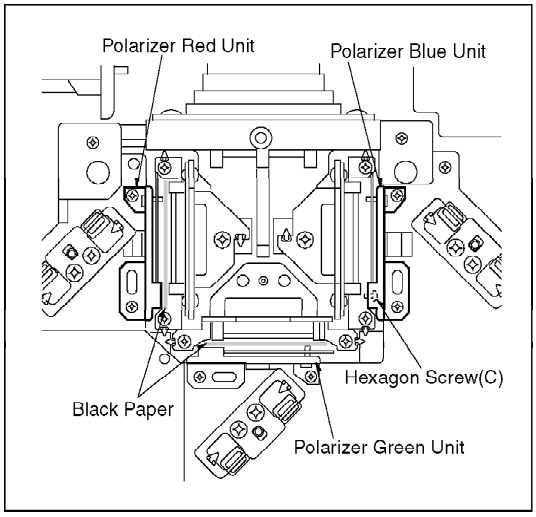
Fig. 5-4-15



- POLARIZER BLUE ADJUSTMENT

1. **Insert a black paper in the gap between the LCD Unit and the Polarizer Unit and shut out the light completely for the R and G light paths.**
2. **Supply Black Signal (0%) and project on the screen.**
3. **Loosen a Hexagon Screw (C) of Polarizer Blue Unit.**
4. **Move the Polarizer Blue Unit to the right and left so that the whole screen becomes the blackest possible value, and then tighten a Hexagon Screw (C) with a Hexagon Wrench.**

Fig. 5-4-16



Note:
Use a Hexagon Wrench (2.5mm) for Hexagon screw (A), screw (B) and screw (C).

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5.4.10. FULL MIRROR ADJUSTMENT

Purpose:
To set the Full Mirror in the proper position.

Symptom of Misadjustment:
The non-uniformity color will appear.

TP	ADJ.	INPUT
	FULL MIRROR GREEN FULL MIRROR RED FULL MIRROR BLUE	(RGB2 Input Connector) 100 % GREEN SIGNAL 100 % YELLOW SIGNAL 100 % WHITE SIGNAL
EQUIPMENT		SPECIFICATION
TEST PATTERN SIGNAL		Refer to Description below

Adjustment:
Adjust the right and left sides of the screen by adjusting portion (a), portion (b) or portion (c) and adjust the top and bottom sides of the screen by adjusting back and forth direction.

- FULL MIRROR-GREEN ADJUSTMENT

1. **Supply 100% Green Signal and project on the screen.**
2. **Loosen 2 Screws (A) of the Full Mirror Green.**
3. **Insert a (-) screwdriver into Portion (a) and adjust it so that the non-uniformity color appears on the left or right side of the screen.**
4. **Loosen the screw (B).**
5. **Press Portion (b) of P/S converter alternately and rotate P/S converter to adjust it so that the edge of the non-uniformity color becomes clearest.**
6. **Tighten the screw (B).**
7. **Insert a (-) screwdriver into Portion (a) and move the Full Mirror Green in the direction shown by the arrows so that color uniformity is achieved over the whole screen. And then tighten 2 Screws (A).**

Fig. 5-4-17

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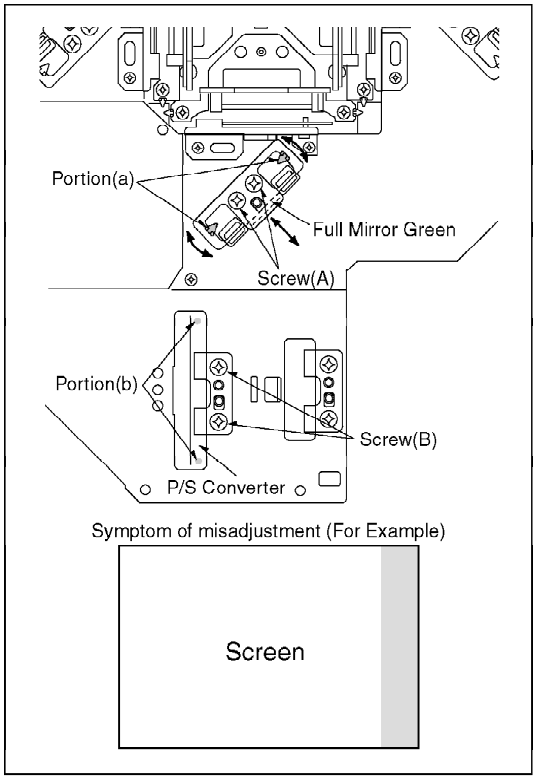


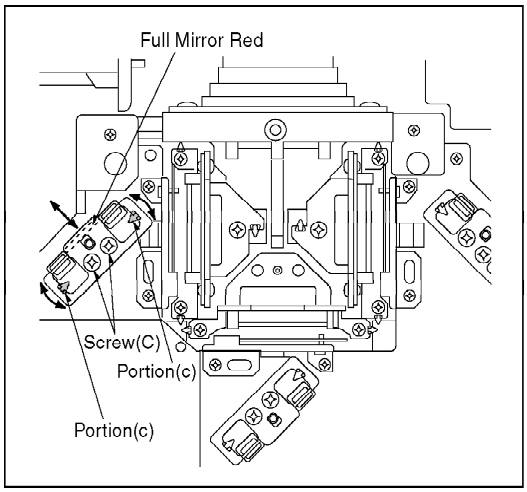
- FULL MIRROR-RED ADJUSTMENT

1. Supply 100% Yellow Signal and project on the screen.

2. Loosen 2 Screws (C) of the Full Mirror Red.

3. Insert a (-) screwdriver into Portion (c) and move the Full Mirror Red in the direction shown by the arrows so that color uniformity is achieved over the whole screen. And then tighten 2 screws (C).

Fig. 5-4-18



- FULL MIRROR-BLUE ADJUSTMENT

1. Supply 100% White Signal and project on the screen.

2. Loosen 2 Screws (D) of the Full Mirror Blue.

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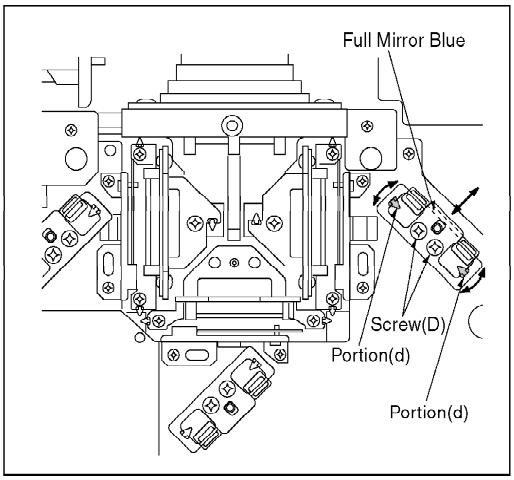
3. **Insert a (-) screwdriver into Portion (d) and move the Full Mirror Blue in the direction shown by the arrows so that color uniformity is achieved over the whole screen. And then tighten 2 screws (D).**

Fig. 5-4-19

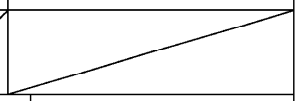


Note:
Do not use excessive force when adjusting the Mirror. Otherwise, the Mirror may be damaged.

5.4.11. DUCT FAN SPEED ADJUSTMENT

Purpose:
To set the optimum turn speed of the Duct Fan.

Symptom of Misadjustment:
Temperature of the LCD projector becomes too high or sound of the Duct Fan becomes loud.

TP	ADJ.	INPUT
TP1961 TP1907 (GND)		
EQUIPMENT		SPECIFICATION
DVM (DIGITAL VOLT METER)		10.8 V ± 0.05 V DC

Note:
TP1961, TP1907: MAIN C.B.A.

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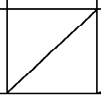
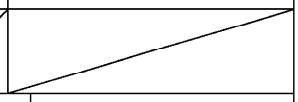
1. Connect the DVM (Digital Volt Meter) to TP1961.
2. Press▲ or▼ button on the remote control to select“FAN1 SPEED”.
3. Press◀ or▶ button so that the voltage shown in the display of DVM is 10.8 V± 0.05 V DC.

5.4.12. LAMP FAN-1 SPEED ADJUSTMENT

Purpose:
To set the optimum turn speed of the Lamp Fan-1.

Symptom of Misadjustment:
Temperature of the LCD projector becomes too high or sound of the Lamp Fan-1 becomes loud.

TP	ADJ.	INPUT
TP1962 TP1907 (GND)		
EQUIPMENT		SPECIFICATION
DVM (DIGITAL VOLT METER)		8.8 V ± 0.05 V DC

Note:
TP1962, TP1907: MAIN C.B.A.

1. Connect the DVM (Digital Volt Meter) to TP1962.
2. Press▲ or▼ button on the remote control to select“FAN2 SPEED”.
3. Press◀ or▶ button so that the voltage shown in the display of DVM is 8.8 V± 0.05 V DC.

Note:
After completing adjustments, press the“ MENU” button to release from“Lcd/Fan Adjust” mode. (Adjustment data is memorized in EEPROM IC (IC6009, IC6010) by pressing“ MENU” button.) Otherwise, adjustment data 5.4.11. and 5.4.12. will be cancelled.

5.4.13. LCD POWER VOLTAGE ADJUSTMENT

Purpose:
To set the standard voltage for LCD panel.

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Symptom of Misadjustment:
LCD panel may be damaged.

TP	ADJ.	INPUT
TP1908 or TP1904 TP1907 (GND)		
EQUIPMENT		SPECIFICATION
DVM (DIGITAL VOLT METER)		15.3 V ± 0.05 V DC

Note:
TP1904, TP1907, TP1908: MAIN C.B.A.

1. **Connect the DVM (Digital Volt Meter) to TP1904 or TP1908.**
2. **Press▲ or▼ button on the remote control to select“15.3V”.**
3. **Press◀ or▶ button so that the voltage shown in the display of DVM is 15.3 V± 0.05 V DC.**

5.4.14. RGB INPUT LEVEL ADJUSTMENT

Purpose:
To set the optimum signal level.

Symptom of Misadjustment:
The picture will be too light or too dark.

TP	ADJ.	INPUT
TP3501 TP3502 TP3503		(RGB2 Input Connector) GRAY SCALE PATTERN SIGNAL (3 SCALE)
EQUIPMENT		SPECIFICATION
OSCILLOSCOPE TEST PATTERN SIGNAL		Refer to Description below

Note:
TP3501, TP3502, TP3503: Main C.B.A.

1. **Supply Gray Scale Pattern Signal (3 scales).**
2. **Connect the oscilloscope to TP3501.**

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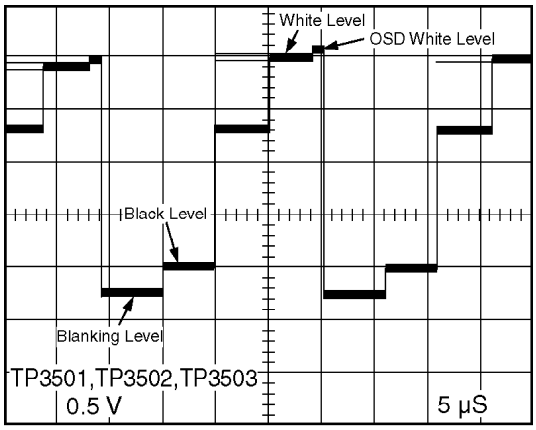
3. Press▲ or▼ button on remote control to select“R BRIGHT”.
4. Press◀ or▶ button so that Black level becomes the same as Blanking level.
5. Select“R LEVEL”, and press◀ or▶ button so that White level becomes the same as OSD White level.
6. Connect the oscilloscope to TP3502.
7. Press▲ or▼ button on remote control to select“G BRIGHT”.
8. Press◀ or▶ button so that Black level becomes the same as Blanking level.
9. Select“G LEVEL”, and press◀ or▶ button so that White level becomes the same as OSD White level.
10. Connect the oscilloscope to TP3503.
11. Press▲ or▼ button on remote control to select“B BRIGHT”.
12. Press◀ or▶ button so that Black level becomes the same as Blanking level.
13. Select“B LEVEL”, and press◀ or▶ button so that White level becomes the same as OSD White level.

Fig. 5-4-20



5.4.15. VIDEO INPUT ADJUSTMENT

Purpose:
To set the optimum signal level.

Symptom of Misadjustment:
The picture will be too light or too dark.

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TP	ADJ.	INPUT
TP3502		(VIDEO Input Connector) GRAY SCALE PATTERN SIGNAL (10 SCALE)
EQUIPMENT		SPECIFICATION
OSCILLOSCOPE NTSC VIDEO PATTERN GENERATOR		Refer to Description below

Note:
TP3502: Main C.B.A.

1. Supply Gray Scale Pattern Signal (10 scales).

2. Connect the oscilloscope to TP3502.

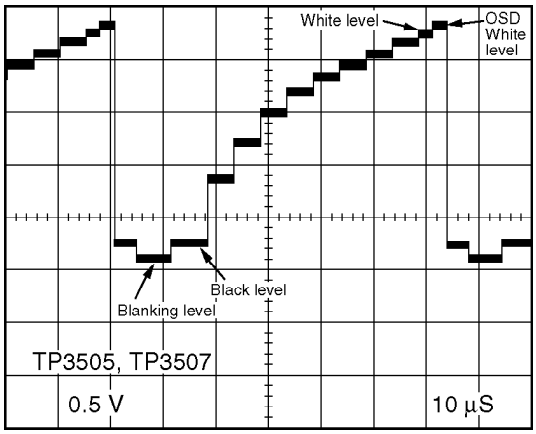
3. Press▲ or▼ button on remote control to select“VIDEO BRIGHT”.

4. Press◀ or▶ button so that the black level becomes the same as blanking level.

5. Press▲ or▼ button on remote control to select“VIDEO LEVEL”.

6. Press◀ or▶ button so that the white level becomes the same as OSD white level.

Fig. 5-4-21



5.4.16. COMPONENT VIDEO OFFSET ADJUSTMENT

Purpose:
To set the optimum signal level.

Symptom of Misadjustment:
The picture will be too light or too dark.

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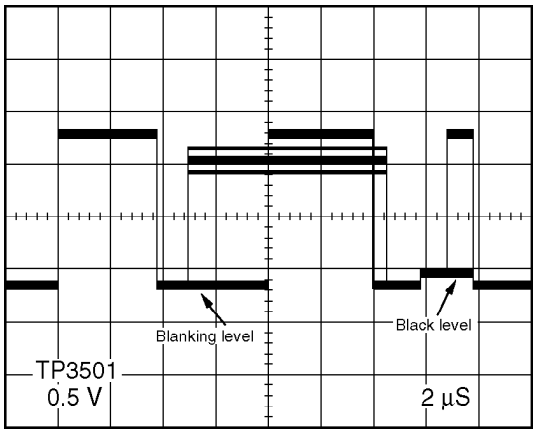
TP	ADJ.	INPUT
TP3501 TP3503		(RGB2Input Connector) COMPONENT VIDEO 100 % COLOR BAR SIGNAL (SET UP: YPBPR)
EQUIPMENT		SPECIFICATION
OSCILLOSCOPE PROGRAMMABLE VIDEO SIGNAL GENERATOR		Refer to Description below

Note:
TP3501: Main C.B.A.

1. **Supply Component Video 100% Color Bar Signal.**
   (Refer to"System Configuration Example" of"2 OPERATION GUIDE")
2. **Connect the oscilloscope to TP3501.**
3. **Press▲ or▼ button on remote control to select"PR- OFFSET".**
4. **Press◀ or▶ button so that the Black level becomes the same as Blanking level.**

Fig. 5-4-22



5. **Connect the oscilloscope to TP3503.**
6. **Press▲ or▼ button on remote control to select"PB- OFFSET".**
7. **Press◀ or▶ button so that the Black level becomes the same as Blanking level.**

Fig. 5-4-23

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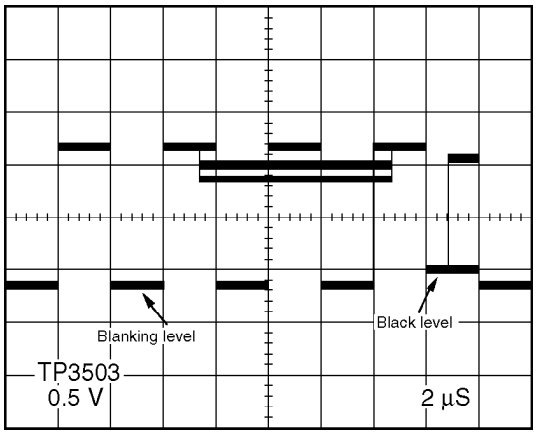


Note:

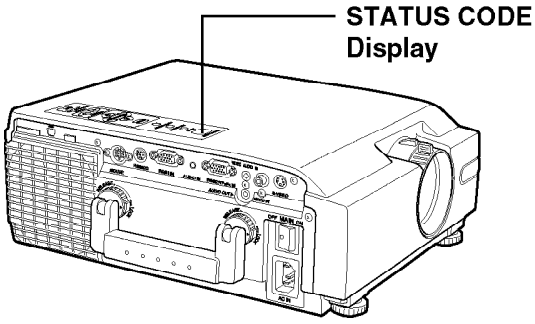
After completing adjustments, press the“ MENU” button to release from“Video/Rgb Adjust” mode. (Adjustment data is memorized in EEPROM IC (IC6009, IC6010) by pressing“ MENU” button.)Otherwise, adjustment data 5.4.13. through 5.4.16. will be cancelled.

6. BLOCK DAIGRAM

7. TROUBLESHOOTING HINTS

Status Code Display Indications

Following Status Code will be displayed in the STATUS CODE display.



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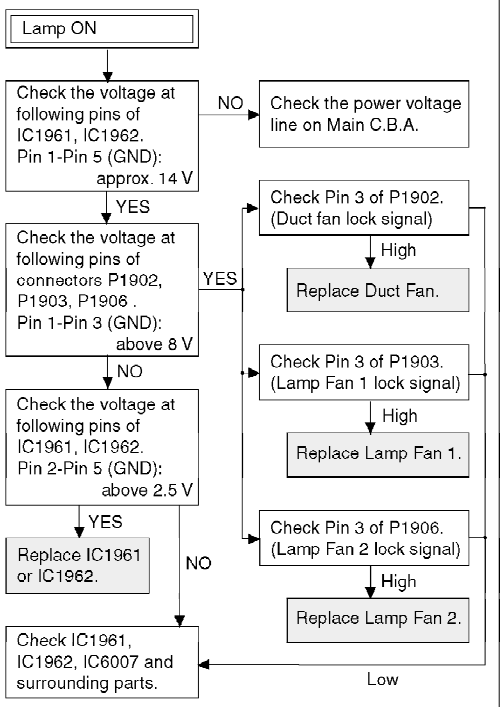
<table>
<tr><th>STATUS CODE</th><th>Symptom</th><th>Problem</th><th>Possible Solution</th></tr>
<tr><td>F-L</td><td>Lamp Unit automatically turns off due to abnormally high internal temperature.
(Stand-by condition)</td><td>• Cooling fan (Duct Fan and/or Lamp Fan 1 and/or Lamp Fan 2) malfunction.</td><td>1) Confirm that all cables are connected to connectors (P1902, P1903, P1905, P1906) correctly.
2) Check following fan lock signal
 
</td></tr>
<tr><td>F-O</td><td></td><td>• Misinstalled Air Filter Unit.</td><td>• Properly install Air Filter Unit.</td></tr>
</table>

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<table>
<tr><th>STATUS CODE</th><th>Symptom</th><th>Problem</th><th>Possible Solution</th></tr>
<tr><td>A-n</td><td></td><td>• Temperature Sensor malfunction. (Thermistor on the Duct.)</td><td>• Check the voltage at Pin 1 and Pin 3 of P6002.
(1) Themistor on the Duct
<table><tr><th>Check Pin \ Condition of sensor</th><th>Open</th><th>Short</th></tr><tr><td>Pin 1 of P6002</td><td>5 V</td><td>2.5 V</td></tr><tr><td>Pin 3 of P6002</td><td>0 V</td><td>2.5 V</td></tr></table>→ Replace the Themistor C.B.A.</td></tr>
<tr><td>A-0</td><td></td><td>• Clogged air filter.
• Blocked air intake.
• The surrounding temperature of the place of use may be too high.</td><td>• Clean the filter.
• Relocate projector to a proper location.
• Place projector so that surrounding temperature is between 5 °C (41 °F) and 40 °C (104 °F) and the humidity is between 10 % and 80 % (with no condensation).</td></tr>
<tr><td>L-n</td><td>Lamp does not light up.</td><td>• There is the possibility that Lamp is burned-out.</td><td>• Wait until the Lamp Unit has cooled off (approx. 5 minutes) and try to turn the power back on.
• If this code appears, try above again and again.
• If this code appears continuously more than 5 or 6 times, replace the Lamp Unit.
• If this code appears again after replacement of the Lamp Unit, replace Main Power C.B.A. and System Power C.B.A.</td></tr>
<tr><td>P-2</td><td></td><td>• Lamp Voltage is not correct.</td><td>• Wait until the Lamp Unit has cooled off (approx. 5 minutes) and try to turn the power back on.
• Replace the Lamp Unit.</td></tr>
<tr><td>P-3</td><td>Abnormally high internal temperature.</td><td>• Abnormal temperature rise.</td><td>• Wait until the Lamp Unit has cooled off (approx. 5 minutes) and try to turn the power back on.
• Check if Power Fan is rotating or not.
Is Power Fan rotating → YES → Replace the Main Power C.B.A. and System Power C.B.A.
↓ NO
Is the voltage at Pin 1 of P1702 above 13 V ? → YES → Replace the Power Fan
↓ NO
Replace the Main Power C.B.A. and System Power C.B.A..</td></tr>
<tr><td>P-4</td><td></td><td>• Other cause.</td><td>• Wait until the Lamp Unit has cooled off (approx. 5 minutes) and try to turn the power back on.
• Replace the Main Power C.B.A. and System Power C.B.A.</td></tr>
<tr><td>L-1</td><td>Lamp operation time is over 1900 hours.</td><td>• It is nearly time to replace the Lamp Unit.</td><td rowspan="2">• Replace the Lamp unit.</td></tr>
<tr><td>L-0</td><td>Lamp operation time is over 2000 hours.</td><td>• The Lamp Unit must be replaced.</td></tr>
<tr><td>C-d</td><td>Forced cooling fan operating to expedite lamp replacement.</td><td>———————</td><td>———————</td></tr>
</table>

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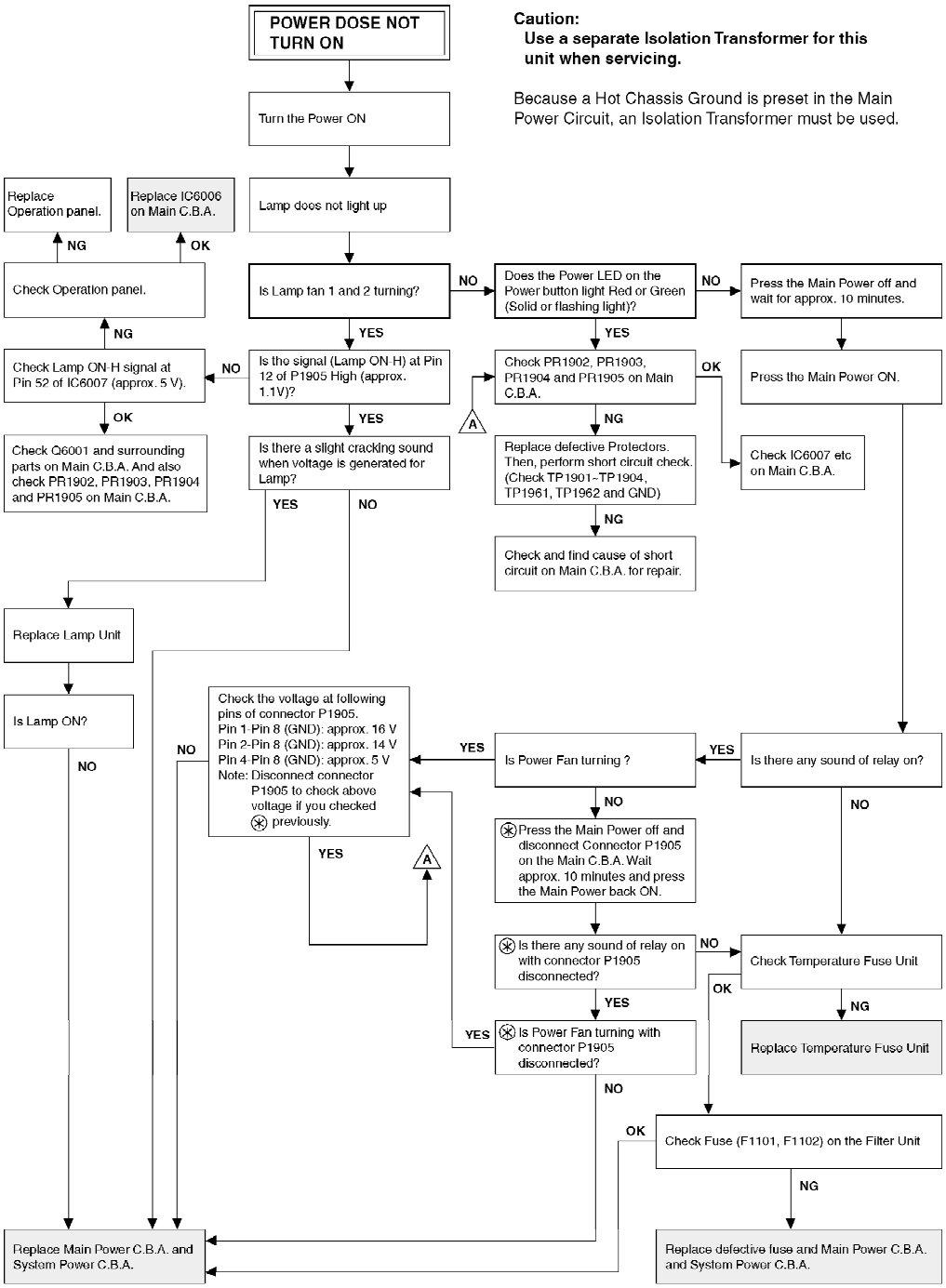
POWER DOSE NOT TURN ON
Caution:
Use a separate Isolation Transformer for this unit when servicing.
Because a Hot Chassis Ground is preset in the Main Power Circuit, an Isolation Transformer must be used.
Turn the Power ON
Lamp does not light up
Replace Operation panel.
Replace IC6006 on Main C.B.A.
NG
OK
Check Operation panel.
Is Lamp fan 1 and 2 turning?
NO
Does the Power LED on the Power button light Red or Green (Solid or flashing light)?
NO
Press the Main Power off and wait for approx. 10 minutes.
NG
YES
YES
Check Lamp ON-H signal at Pin 52 of IC6007 (approx. 5 V).
NO
Is the signal (Lamp ON-H) at Pin 12 of P1905 High (approx. 1.1V)?
Check PR1902, PR1903, PR1904 and PR1905 on Main C.B.A.
OK
Press the Main Power ON.
OK
YES
A
NG
Check Q6001 and surrounding parts on Main C.B.A. And also check PR1902, PR1903, PR1904 and PR1905 on Main C.B.A.
Is there a slight cracking sound when voltage is generated for Lamp?
Replace defective Protectors. Then, perform short circuit check. (Check TP1901~TP1904, TP1961, TP1962 and GND)
Check IC6007 etc on Main C.B.A.
YES
NO
NG
Check and find cause of short circuit on Main C.B.A. for repair.
Replace Lamp Unit
Is Lamp ON?
NO
Check the voltage at following pins of connector P1905.
Pin 1-Pin 8 (GND): approx. 16 V
Pin 2-Pin 8 (GND): approx. 14 V
Pin 4-Pin 8 (GND): approx. 5 V
Note: Disconnect connector P1905 to check above voltage if you checked ⊛ previously.
NO
YES
Is Power Fan turning ?
YES
Is there any sound of relay on?
YES
NO
NO
A
⊛Press the Main Power off and disconnect Connector P1905 on the Main C.B.A. Wait approx. 10 minutes and press the Main Power back ON.
⊛Is there any sound of relay on with connector P1905 disconnected?
NO
Check Temperature Fuse Unit
YES
OK
NG
YES
⊛Is Power Fan turning with connector P1905 disconnected?
Replace Temperature Fuse Unit
NO
OK
Check Fuse (F1101, F1102) on the Filter Unit
NG
Replace Main Power C.B.A. and System Power C.B.A.
Replace defective fuse and Main Power C.B.A. and System Power C.B.A.

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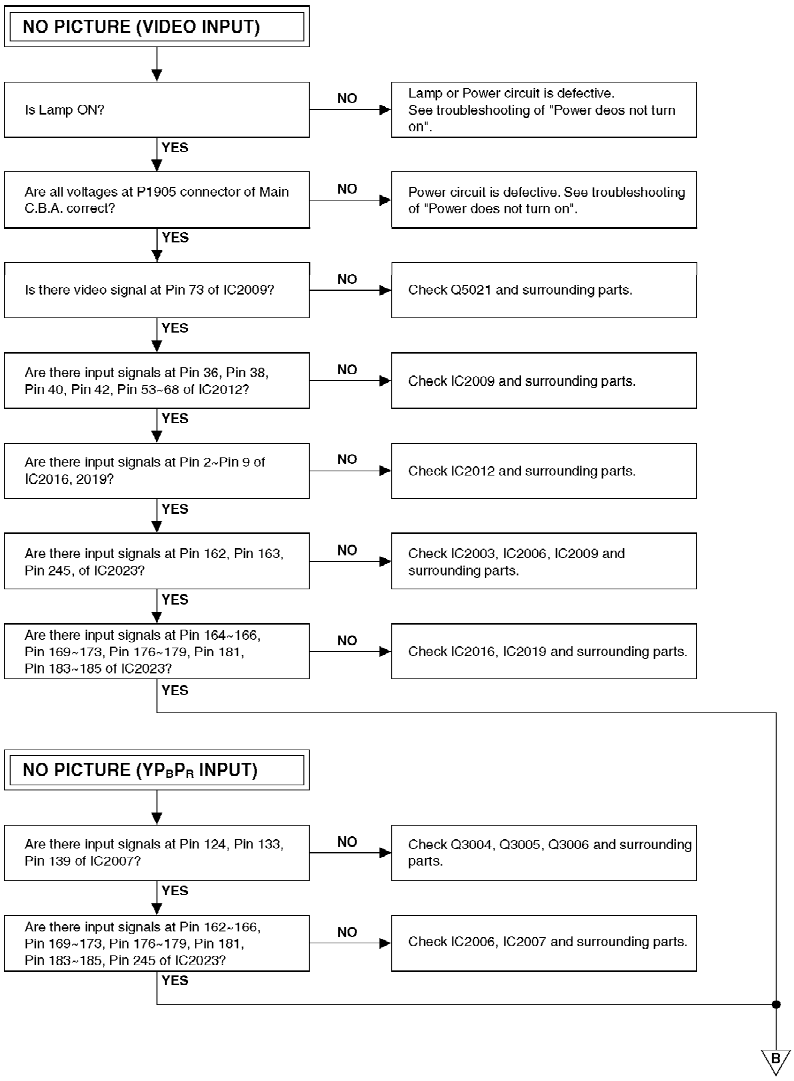
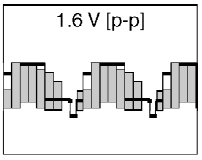
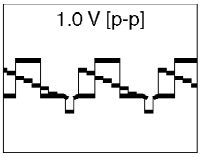

NO PICTURE (VIDEO INPUT)
Is Lamp ON?
NO
Lamp or Power circuit is defective. See troubleshooting of "Power does not turn on".
YES
Are all voltages at P1905 connector of Main C.B.A. correct?
NO
Power circuit is defective. See troubleshooting of "Power does not turn on".
YES
Is there video signal at Pin 73 of IC2009?
NO
Check Q5021 and surrounding parts.
YES
Are there input signals at Pin 36, Pin 38, Pin 40, Pin 42, Pin 53~68 of IC2012?
NO
Check IC2009 and surrounding parts.
YES
Are there input signals at Pin 2~Pin 9 of IC2016, 2019?
NO
Check IC2012 and surrounding parts.
YES
Are there input signals at Pin 162, Pin 163, Pin 245, of IC2023?
NO
Check IC2003, IC2006, IC2009 and surrounding parts.
YES
Are there input signals at Pin 164~166, Pin 169~173, Pin 176~179, Pin 181, Pin 183~185 of IC2023?
NO
Check IC2016, IC2019 and surrounding parts.
YES
NO PICTURE (YPBPR INPUT)
Are there input signals at Pin 124, Pin 133, Pin 139 of IC2007?
NO
Check Q3004, Q3005, Q3006 and surrounding parts.
YES
Are there input signals at Pin 162~166, Pin 169~173, Pin 176~179, Pin 181, Pin 183~185, Pin 245 of IC2023?
NO
Check IC2006, IC2007 and surrounding parts.
YES
B

WAVEFORM OF CHECK POINTS

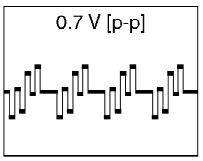
IC2009-Pin73



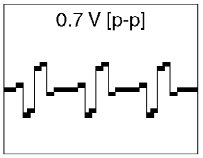
IC2007-Pin124



IC2007-Pin133



IC2007-Pin139



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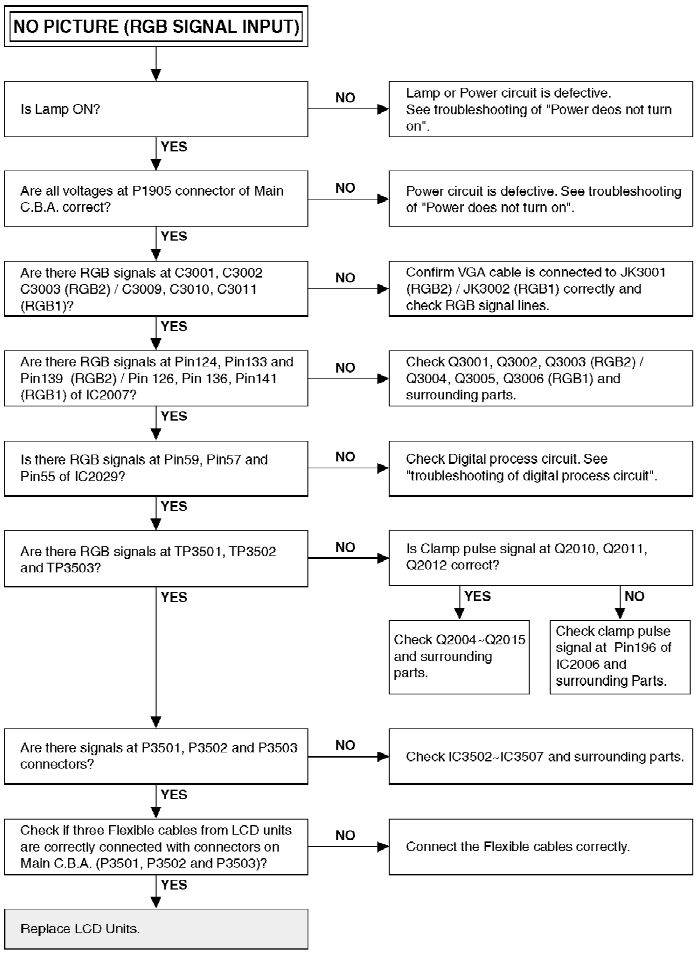
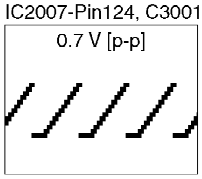
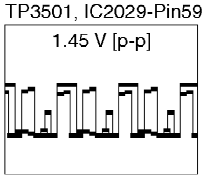

NO PICTURE (RGB SIGNAL INPUT)
Is Lamp ON?
NO
Lamp or Power circuit is defective. See troubleshooting of "Power deos not turn on".
YES
Are all voltages at P1905 connector of Main C.B.A. correct?
NO
Power circuit is defective. See troubleshooting of "Power does not turn on".
YES
Are there RGB signals at C3001, C3002 C3003 (RGB2) / C3009, C3010, C3011 (RGB1)?
NO
Confirm VGA cable is connected to JK3001 (RGB2) / JK3002 (RGB1) correctly and check RGB signal lines.
YES
Are there RGB signals at Pin124, Pin133 and Pin139 (RGB2) / Pin 126, Pin 136, Pin141 (RGB1) of IC2007?
NO
Check Q3001, Q3002, Q3003 (RGB2) / Q3004, Q3005, Q3006 (RGB1) and surrounding parts.
YES
Is there RGB signals at Pin59, Pin57 and Pin55 of IC2029?
NO
Check Digital process circuit. See "troubleshooting of digital process circuit".
YES
Are there RGB signals at TP3501, TP3502 and TP3503?
NO
Is Clamp pulse signal at Q2010, Q2011, Q2012 correct?
YES
Check Q2004~Q2015 and surrounding parts.
NO
Check clamp pulse signal at Pin196 of IC2006 and surrounding Parts.
YES
Are there signals at P3501, P3502 and P3503 connectors?
NO
Check IC3502~IC3507 and surrounding parts.
YES
Check if three Flexible cables from LCD units are correctly connected with connectors on Main C.B.A. (P3501, P3502 and P3503)?
NO
Connect the Flexible cables correctly.
YES
Replace LCD Units.

WAVEFORM OF CHECK POINTS

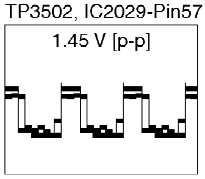
IC2007-Pin124, C3001



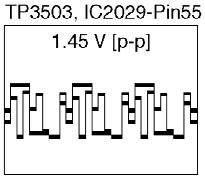
TP3501, IC2029-Pin59



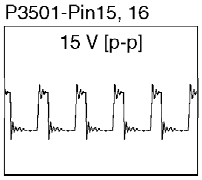
TP3502, IC2029-Pin57



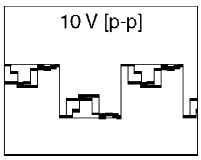
TP3503, IC2029-Pin55



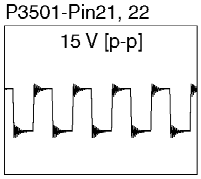
P3501-Pin15, 16



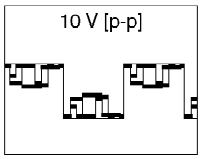
P3502-Pin24



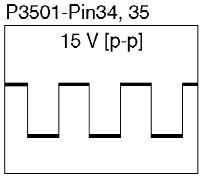
P3501-Pin21, 22



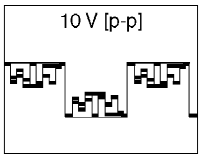
P3501-Pin24



P3501-Pin34, 35



P3503-Pin24



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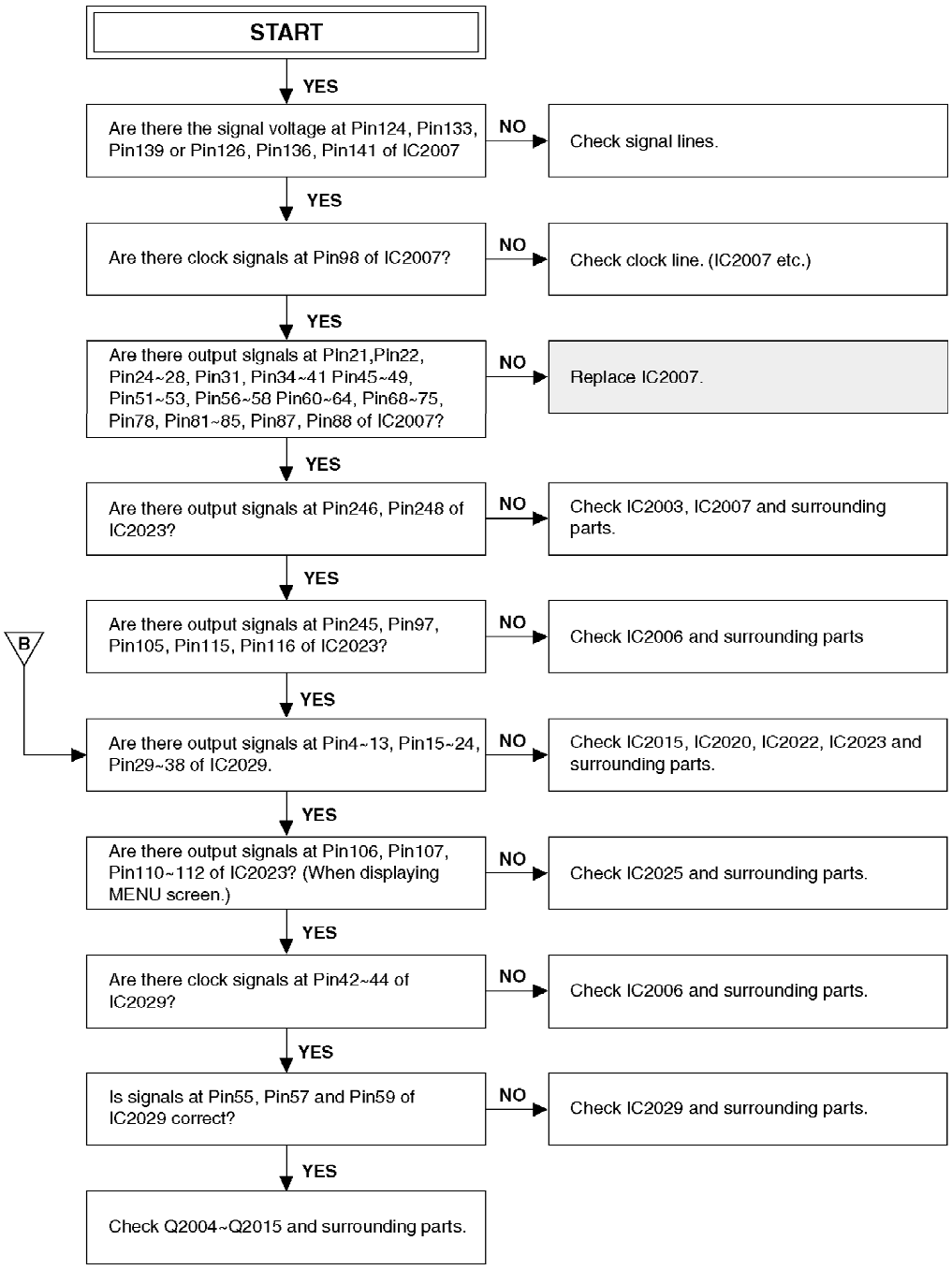
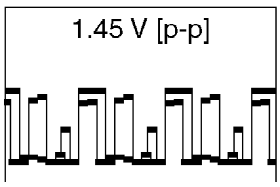
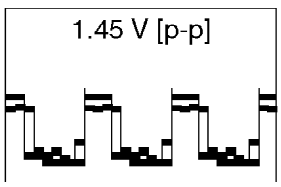
TROUBLESHOOTING OF DIGITAL PROCESS CIRCUIT


START
YES
Are there the signal voltage at Pin124, Pin133, Pin139 or Pin126, Pin136, Pin141 of IC2007
NO
Check signal lines.
YES
Are there clock signals at Pin98 of IC2007?
NO
Check clock line. (IC2007 etc.)
YES
Are there output signals at PIn21,PIn22, Pin24~28, Pin31, Pin34~41 Pin45~49, Pin51~53, Pin56~58 Pin60~64, Pin68~75, Pin78, Pin81~85, Pin87, Pin88 of IC2007?
NO
Replace IC2007.
YES
Are there output signals at Pin246, Pin248 of IC2023?
NO
Check IC2003, IC2007 and surrounding parts.
YES
Are there output signals at Pin245, Pin97, Pin105, Pin115, Pin116 of IC2023?
NO
Check IC2006 and surrounding parts
B
YES
Are there output signals at Pin4~13, Pin15~24, Pin29~38 of IC2029.
NO
Check IC2015, IC2020, IC2022, IC2023 and surrounding parts.
YES
Are there output signals at Pin106, Pin107, Pin110~112 of IC2023? (When displaying MENU screen.)
NO
Check IC2025 and surrounding parts.
YES
Are there clock signals at Pin42~44 of IC2029?
NO
Check IC2006 and surrounding parts.
YES
Is signals at Pin55, Pin57 and Pin59 of IC2029 correct?
NO
Check IC2029 and surrounding parts.
YES
Check Q2004~Q2015 and surrounding parts.

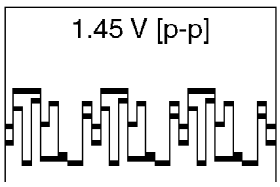
IC2029-Pin59



IC2029-Pin57



IC2029-Pin55



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8. SCHEMATIC DIAGRAMS

8.1. SCHEMATIC DIAGRAM NOTES

1. **Important safety notice**
   Components identified by the sign⚠ have special characteristics important for safety. When replacing any of these components. Use only the specified parts.
2. **Do not use the part number shown on this drawing for ordering. / The correct part number is shown in the parts list, and may be slightly different or amended since this drawing was prepared.**
3. **Use only original replacement parts:**
   To maintain original function and reliability of repaired units, use only original replacement parts which are listed with their part numbers in the parts list section of the service manual.
4. **Parts different in shape or size may be used.**
   However, only interchangeable parts will be supplied as service replacement parts.
5. **The part number shown on this drawing is only main part number, except for safety parts. Be sure to make your orders of replacement parts according to the parts list.**
6. **The Schematic Diagram of Main Power C.B.A., System Power C.B.A., Line Filter C.B.A. and Filter C.B.A. is not included in this Service Manual.**
   Because, these Circuit Board Assemblies are supplied as a unit (C.B.A.) only.

8.2. INTERCONNECTION SCHEMATIC DIAGRAM

8.3. POWER/AUDIO SECTION SCHEMATIC DIAGRAM

8.4. VIDEO SECTION SCHEMATIC DIAGRAM

8.5. INPUT SECTION SCHEMATIC DIAGRAM

8.6. SYSTEM SECTION SCHEMATIC DIAGRAM

8.7. USB MOUSE SECTION SCHEMATIC DIAGRAM

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8.8. DIGITAL SECTION (1) SCHEMATIC DIAGRAM
8.9. DIGITAL SECTION (2) SCHEMATIC DIAGRAM
8.10. DIGITAL SECTION (3) SCHEMATIC DIAGRAM
8.11. DIGITAL SECTION (4) SCHEMATIC DIAGRAM
8.12. DIGITAL SECTION (5) SCHEMATIC DIAGRAM
8.13. DIGITAL SECTION (6) SCHEMATIC DIAGRAM
8.14. DRIVE SECTION (1) SCHEMATIC DIAGRAM
8.15. DRIVE SECTION (2) SCHEMATIC DIAGRAM
9. VOLTAGE CHART
9.1. POWER/AUDIO SECTION VOLTAGE CHART
9.2. VIDEO SECTION VOLTAGE CHART
9.3. INPUT SECTION VOLTAGE CHART
9.4. SYSTEM SECTION VOLTAGE CHART
9.5. USB MOUSE SECTION VOLTAGE CHART
9.6. DIGITAL SECTION VOLTAGE CHART (1)
9.7. DIGITAL SECTION VOLTAGE CHART (2)
9.8. DRIVE SECTION VOLTAGE CHART
10. WAVEFORM
11. CIRCUIT BOARDS
11.1. CIRCUIT BOARDS NOTES

1. Important safety notice
Components identified by the sign⚠ have special characteristics important for safety. When replacing any of these components. Use only the specified parts.

2. Do not use the part number shown on this drawing for ordering. / The correct part number is shown in the parts list, and may be slightly different or amended since this drawing was prepared.

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3. **Use only original replacement parts:**
   To maintain original function and reliability of repaired units, use only original replacement parts which are listed with their part numbers in the parts list section of the service manual.
4. **Parts different in shape or size may be used.**
   However, only interchangeable parts will be supplied as service replacement parts.
5. **The Circuit Board of Main Power C.B.A., System Power C.B.A., Line Filter C.B.A. and Filter C.B.A. is not included in this Service Manual.**
   Because, these Circuit Board Assemblies are supplied as a unit (C.B.A.) only.

11.2. MAIN C.B.A. (LSEP3021C1:L759A/LSEP3021A1:L759U/E), INFRARED SENSOR FRONT C.B.A. (LESP0A10A1) AND THERMISTOR C.B.A. (LSEP0A11A1)

12. EXPLODED VIEWS

12.1. CHASSIS FRAME SECTION

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12.2. OPTICAL BLOCK SECTION

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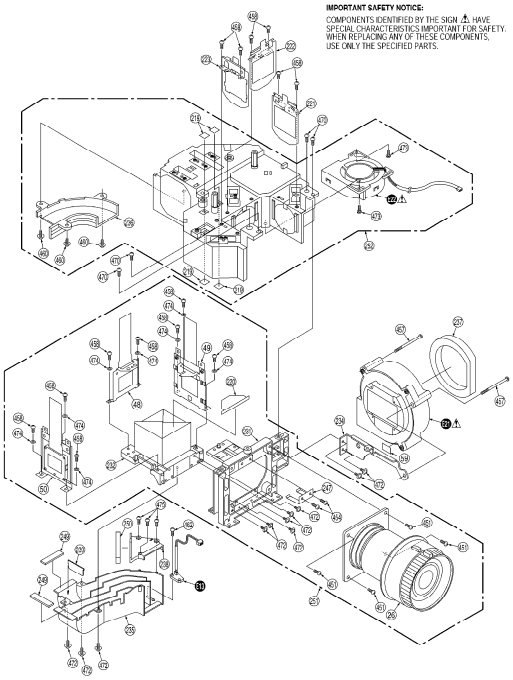
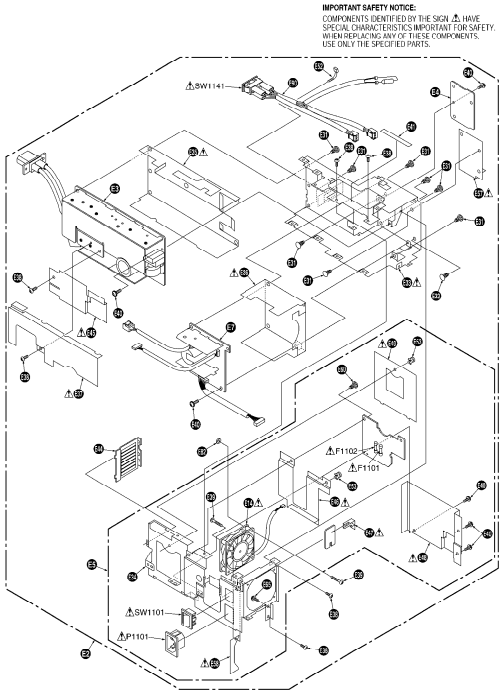

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.

12.3. POWER SECTION


IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.
⚠SW1141
⚠F1102
⚠F1101
⚠SW1101
⚠P1101

12.4. PACKING PARTS AND ACCESSORIES SECTION

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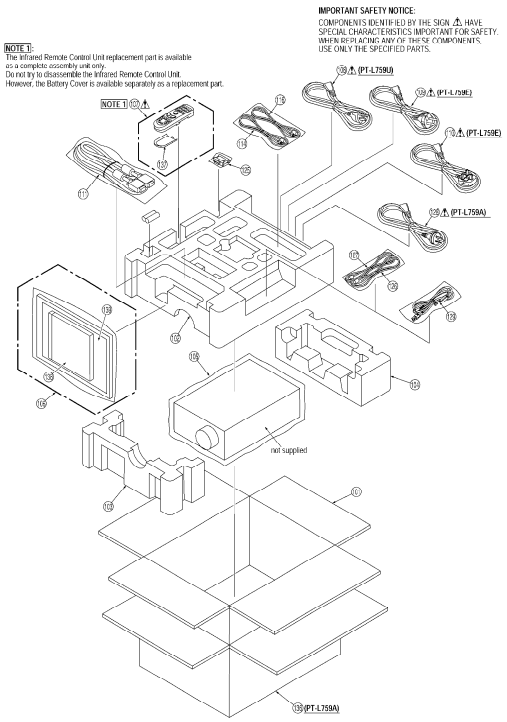
IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.
NOTE 1:
The Infrared Remote Control Unit replacement part is available as a complete assembly unit only.
Do not try to disassemble the Infrared Remote Control Unit.
However, the Battery Cover is available separately as a replacement part.
NOTE 1
(PT-L759U)
(PT-L759E)
(PT-L759E)
(PT-L759A)
not supplied
(PT-L759A)

13. REPLACEMENT PARTS LISTS

BEFORE REPLACING PARTS, READ THE FOLLOWING:

13.1. REPLACEMENT NOTES

13.1.1. General Notes

1. **Use only original replacement parts:**
   To maintain original function and reliability of repaired units, use only original replacement parts which are listed with their part numbers in the parts list.
2. **IMPORTANT SAFETY NOTICE**
   Components identified by the sign⚠ have special characteristics important for safety. When replacing any of these components, use only the specified parts.
3. **SPECIAL NOTE**
   All integrated circuits and many other semiconductor devices are electrostatically sensitive and therefore require the special handling techniques described under the "ELECTROSTATICALLY SENSITIVE (ES) DEVICES" section of this service manual.
4. **Parts with no Ref. No. in "EXPLODED VIEWS" are not supplied.**

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And some Ref. No. will be skipped. Be sure to make your orders of replacement parts according to the parts list.

5. **Parts different in shape or size may be used. However, only interchangeable parts will be supplied as service replacement parts.**
6. **Parts with mark "MKA" in the Remarks column are supplied from MKA. Others are supplied from MKE.**

13.1.2. Mechanical Replacement Notes

1. **Section No. of parts shown in Exploded Views are indicated in the Remarks column.**
2. **Liquid Crystal Display Unit (Ref. No. 48, 49, and 50) replacement note:**
   When replacing the Liquid Crystal Display Unit, make sure to refer to "Disassembly of Optical Unit" section.
3. **Infrared Remote Control Unit (Ref. No. 107) replacement note:**
   The Infrared Remote Control Unit replacement part is available as a complete assembly unit only. Do not try to disassemble the Infrared Remote Control Unit. However, the Battery Cover is available separately as a replacement part.

13.1.3. Electrical Replacement Notes

1. **Item numbers with capital letter E (Example: E1, E2,...) in the Ref. No. column are shown in the exploded views. The E item numbers are also printed on the same page at the top of the column.**
2. **The parts with " ■ " mark are supplied as a unit and their individual parts are also supplied separately. / The parts with " ▲ " mark are supplied as a unit and their individual parts are also supplied separately, and are includedin " ■ " parts listed directly above in the parts list.**
3. **Unless otherwise specified;**
   All resistors are in ohm, 1/4 W,±5%, carbon, K= 1000 ohm, M= 1000 kohm.
   All capacitors are in μ F, P= μ μ F,±10%.
   All coils are in μ H, M= 1000 μ H,±10%.

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4. Abbreviation

- **RTL: Retention Time Limited**
  This indicates that the retention time is limited for this item. After the discontinuation of this item in production, it will no longer be available.
- **NR: Non Repairable Board Ass'y**
- **MGF CHIP: Metal Glaze Film Chip**
- **C CHIP: Ceramic Chip**
- **COMPLX CMP: Complex Component**
- **W FLMPRF: Wirewound Flameproof**
- **C.B.A.: Circuit Board Assembly**
- **P.C.B.: Printed Circuit Board**
- **E.S.D.: Electrostatically Sensitive Devices**

5. SERVICE OF CHIP PARTS
When servicing chip parts, please use a soldering iron of less than 30 watts. Refer to "IC, TRANSISTOR AND CHIP PART INFORMATION" page.

6. The parts with " ● " are 0 ohm resistor. When replacing, a wire can be substituted for a 0 ohm resistor.

7. C.B.A. replacement note:
Following C.B.A.s are supplied as a Unit(C.B.A.) only. Please note that individual parts on C.B.A. are NOT supplied.

- **E3 Main Power C.B.A.**
- **E4 Line Filter C.B.A.**
- **E7 System Power C.B.A.**

13.2. MECHANICAL REPLACEMENT PARTS LIST

<The complete Exploded Views are shown in this manual>

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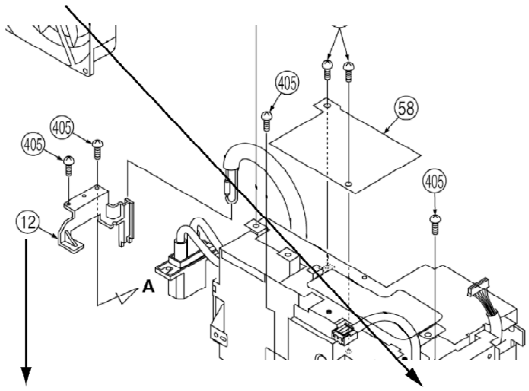
12 EXPLODED VIEWS

12.1. CHASSIS FRAME SECTION



Ref. No.	Part No.	Part Name& Description	Remarks
		MECHANISM PARTS ON CHASSIS	
			(Section No.)
1	LSYF0409	TOP COVER ASS'Y	1
5	LSGP0160	REAR INFRARED PIECE	1
9	LSYF0367	LAMP COVER UNIT	1
10	LSYF0403	LENS CAP UNIT	1
11	LSMP0226	BOTTOM CASE,PLASTIC	1
12	LSMP0194	CONNECTOR STAY	1
13	LSMA0329	FRONT INFRARED PLATE,STEEL	1
14	LSYF0321	HANDLE PLATE UNIT	1
15	LSMC0078	FINGER CLIP	1
17	LSYF0322	FOOT UNIT	1
23	LSMT0043	CUSHION,POLYURETHANE-NYLON	1
24	LSMT0044	CUSHION,POLYURETHANE-NYLON	1
26	LSDL0086	PROJECTION LENS	2
28	LSMP0192	LAMP HOUSE	1
29	LSMC0085	EARTH SPRING	1
30	LSMC0087	EARTH SPRING	1
32	LSSC0351	PLATE,STEEL	1
36	LSYH0015	HANDLE UNIT	1
37	LSSC0260	SHIELD TAPE	1
38	LSSC0259	SHIELD TAPE	1
39	LSSC0258	SHIELD TAPE	1
41	LSYF0324	FILTER COVER UNIT	1
48	LSXA0305	LIQUID CRYSTAL DISPLAY GREEN UNIT	2
48	LSXA0308	LIQUID CRYSTAL DISPLAY GREEN UNIT	2
49	LSXA0307	LIQUID CRYSTAL DISPLAY RED UNIT	2
49	LSXA0304	LIQUID CRYSTAL DISPLAY RED UNIT	2
50	LSXA0309	LIQUID CRYSTAL DISPLAY BLUE UNIT	2
50	LSXA0306	LIQUID CRYSTAL DISPLAY BLUE UNIT	2
57	LSMZ0224	TOP BARRIER	1
58	LSMZ0230	SWITCH BARRIER	1
59	LSMZ0170	BARRIER	1,2
60	LSMZ0233	BARRIER	1
67	LSQL0980	CAUTION LABEL TOP	1
68	LSQL0979	CAUTION LABEL / BOTTOM-A	1 PT-L759U/E
68	LSQL0978	CAUTION LABEL / BOTTOM-A	1 PT-L759A
74	LSQL0981	CAUTION LABEL / BOTTOM-C	1
75	LSQL0983	CAUTION LABEL / BOTTOM-D	1

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Ref. No.	Part No.	Part Name& Description	Remarks
76	LSQL0781	FUSE LABEL	1
79	LSQL0903	LABEL	1 PT-L759A
83	LSMP0193	LAMP AIR DUCT	1
88	LSYF0319	SPEAKER UNIT	1
89	LSMA0335	FAN PLATE,STEEL	1
93	VMFS0129	SHEET,NYLON-RAYON	1
98	VMFS0321	SHEET,NYLON-RAYON	1
99	LSMX0138	SPACER	1
101	LSPG0884	PACKING CASE,PAPER	4 PT-L759U
101	LSPG0885	PACKING CASE,PAPER	4 PT-L759E
101	LSPG0886	PACKING CASE,PAPER	4 PT-L759A
102	LSPN0113	TOP CUSHION,STYROFOAM	4
103	LSPN0114	BOTTOM CUSHION FRONT,STYROFOAM	4
104	LSPN0115	BOTTOM CUSHION REAR,STYROFOAM	4
105	VPFS0131	BAG,POLYETHYLENE	4
106	LSQF0273	FAN BAG	4 PT-L759U
106	LSQF0274	FAN BAG	4 PT-L759E/A
107	LRQ90044	INFRARED REMOTE CONTROL UNIT	⚠ 4 PT-L759U/E
107	LRQ90045	INFRARED REMOTE CONTROL UNIT	⚠ 4 PT-L759A
108	LSJA0308	POWER CORD W/PLUG,AC 125V	⚠ 4 PT-L759U
108	OR VJAS0179	POWER CORD W/PLUG,AC 125V	⚠ 4 PT-L759U
109	VJAS0188	POWER CORD W/PLUG,AC 250V	⚠ 4 PT-L759E
110	VJAS0189	POWER CORD W/PLUG,AC 250V	⚠ 4 PT-L759E
111	LSJA0239	VGA CABLE W/PLUG,DC 5V	4
114	LSJA0074	VIDEO CABLE W/PLUG	4
116	LSJA0240	AUDIO CABLE W/PLUG,0.9VPP	4
125	LSJA0307	MAC ADAPTOR	4
126	LSJA0212	PS/2 MOUSE CABLE W/PLUG,5V	4
127	LSJA0214	VGA MOUSE CABLE W/PLUG,5V	4
128	LSJA0210	POWER CORD W/PLUG,AC 250V	⚠ 4 PT-L759A
129	LSJA0305	USB CABLE W/PLUG,DC 3V	4
136	LSPG0861	PACKING CASE,PAPER	4 PT-L759A
137	LSVQ0022	BATTERY COVER	4 PT-L759U/E
137	LSVQ0023	BATTERY COVER	4 PT-L759A
138	LSFT0217	INSTRUCTION BOOK CD-ROM	4
139	LSQT0273	INSTRUCTION BOOK	4 PT-L759U
139	LSQT0274	INSTRUCTION BOOK	4 PT-L759E/A
219	VMFS0277	SHEET,NYLON-RAYON	2
220	LSMA0340	BLIND PLATE	2
221	LSXA0258	POLARIZER RED UNIT	2
222	LSXA0259	POLARIZER GREEN UNIT	2
223	LSXA0260	POLARIZER BLUE UNIT	2
231	LSMK0017	OPTICAL BLOCK	2
232	LSDL0104	DICHROIC PRISM UNIT	2
234	LSMA0328	FAN PLATE,STEEL	2
235	LSMP0184	DUCT	2

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Ref. No.	Part No.	Part Name& Description	Remarks
236	LSMP0196	LAMP AIR DUCT	2
237	LSMF0025	SIDE FILTER	2
238	LSMP0185	DUCT COVER	2
239	LSMP0186	DUCT PIECE	2
247	LSMC0074	PRISM SPRING	2
249	LSMF0027	DUCT FILTER 1	2
250	LSMF0028	DUCT FILTER 2	2
251	LSXA0316	OPTICAL BASE UNIT	2
252	LSXA0318	OPTICAL BLOCK UNIT	2
		SCREWS AND WASHERS	
405	XTV3+8GFR	TAPPING SCREW,STEEL	1
407	XTB3+7FFZ	TAPPING SCREW,STEEL	1
408	XTV3+30J	TAPPING SCREW,STEEL	1
409	XTN3+4F	TAPPING SCREW,STEEL	1
413	XTB2+6FFR	TAPPING SCREW,STEEL	1
419	XTB4+15AFR	TAPPING SCREW,STEEL	1
420	LSHD0030	SCREW,STEEL	1
421	XUC3FP	E-RING,STEEL	1
426	XTN3+12GFR	TAPPING SCREW,STEEL	1
428	XSB3+6FR	SCREW,STEEL	1
429	XYE3+FF6	SCREW W/WASHER,STEEL	1
436	XTB4+8FFZ	TAPPING SCREW,STEEL	1
443	XTW3+6MR	TAPPING SCREW,STEEL	1
451	XSN4+10FZ	SCREW,STEEL	2
454	XSN3+6FZ	SCREW,STEEL	2
457	XSB4+35	SCREW,STEEL	2
458	XSN3+4FR	SCREW,STEEL	2
460	XYN3+F6FZ	SCREW W/WASHER,STEEL	2
462	XTN2+4GFR	TAPPING SCREW,STEEL	2
470	XSN4+8FZ	SCREW,STEEL	2
472	XYN3+K6FZ	SCREW W/WASHER,STEEL	2
473	XSN3+8FZ	SCREW,STEEL	2
474	XWE3D7	WASHER,STEEL	2
475	XTN2+8GFZ	TAPPING SCREW,STEEL	2
		SERVICE FIXTURES AND TOOLS	
	LSUA0024	EXTENSION CABLE	

13.3. ELECTRICAL REPLACEMENT PARTS LIST

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Ref. No.	Part No.	Part Name& Description	Remarks
		PRINTED CIRCUIT BOARD ASSEMBLY	
E1	LSEP3021A1	MAIN C.B.A.	■ E.S.D. RTL / PT-L759U/E
E1	LSEP3021C1	MAIN C.B.A.	■ E.S.D. RTL / PT-L759A
E2	LSEB1046A1	POWER ASS'Y	■ RTL
E5	LSEB1049A1	FILTER C.B.A. NR	▲
E11	LSEP0A10A1	INFRARED SENSOR FRONT C.B.A.	■ RTL
E13	LSEP0A11A1	THERMISTOR C.B.A.	■ RTL
		MAIN C.B.A.	■
		INTEGRATED CIRCUITS	
IC1901	PQ20VZ1U	IC, LINEAR SWITCHING REGULATOR	
IC1902	PQ12DZ1U	IC, LINEAR SWITCHING REGULATOR	
IC1961	PQ20VZ1U	IC, LINEAR SWITCHING REGULATOR	
IC1962	PQ20VZ1U	IC, LINEAR SWITCHING REGULATOR	
IC2001	L1087DTX-3.3	IC, LINEAR+3.3V REGULATOR	
IC2002	UPC29M05T-E1	IC, LINEAR+5V REGULATOR	
IC2003	SN74LVC125PW	IC, CMOS STANDARD LOGIC	E.S.D.
IC2006	UPD65945-071	IC, CMOS STANDARD LOGIC	E.S.D.
IC2007	CXA3516R	IC, LINEAR A/D CONVERTER	
IC2008	MSM514265C50	IC, 4M D RAM	E.S.D.
	OR MSM514265C60	IC, 4M D RAM	E.S.D.
IC2009	VPC3230D	IC, LOGIC	
IC2010	L1087DTX-3.3	IC, LINEAR+3.3V REGULATOR	
IC2011	L1087DTX-3.3	IC, LINEAR+3.3V REGULATOR	
IC2012	TC90A46F	IC, LOGIC	E.S.D.
IC2013	SN7AH2G14HCR	IC, CMOS STANDARD LOGIC OR GATE	E.S.D.
	OR TC7WH14FUTEL	IC, CMOS STANDARD LOGIC OR GATE	E.S.D.
IC2014	UPC29M33T-E1	IC, LINEAR+3.3V REGULATOR	
IC2015	MSM16V16SDT1	IC, 16M SD RAM	E.S.D.
	OR MSM16V16SFT1	IC, 16M SD RAM	E.S.D.
IC2016	SN74LVC245PW	IC, CMOS STANDARD LOGIC	E.S.D.
	OR TC74LCX245FT	IC, CMOS STANDARD LOGIC	E.S.D.
	OR 74LCX245MTCX	IC, CMOS STANDARD LOGIC	E.S.D.
IC2019	SN74LVC245PW	IC, CMOS STANDARD LOGIC	E.S.D.
	OR TC74LCX245FT	IC, CMOS STANDARD LOGIC	E.S.D.
	OR 74LCX245MTCX	IC, CMOS STANDARD LOGIC	E.S.D.
IC2020	MSM16V16SDT1	IC, 16M SD RAM	E.S.D.
	OR MSM16V16SFT1	IC, 16M SD RAM	E.S.D.
IC2022	MSM16V16SDT1	IC, 16M SD RAM	E.S.D.
	OR MSM16V16SFT1	IC, 16M SD RAM	E.S.D.
IC2023	IP00C712	IC, LOGIC	E.S.D.
IC2025	MB90098A-114	IC, CMOS STANDARD LOGIC OSD	E.S.D. / PT-L759U/E
	MB90098A-119	IC, CMOS STANDARD LOGIC OSD	E.S.D. PT-L759A
IC2029	MB40C950VPFV	IC, CMOS STANDARD LOGIC D/A CONVERTER	E.S.D.
IC2033	SN74LV14APWR	IC, CMOS STANDARD LOGIC OR GATE	E.S.D.
	OR TC74VHC14FT	IC, CMOS STANDARD LOGIC OR GATE	E.S.D.
	OR 74VHC14MTCX	IC, CMOS STANDARD LOGIC OR GATE	E.S.D.
IC3001	AT24C21	IC, 2K EEP ROM DDC MEMORY	E.S.D.

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Ref. No.	Part No.	Part Name& Description	Remarks
IC3002	SN74AHCT32PW	IC, CMOS STANDARD LOGIC OR GATE	E.S.D.
	OR TC74VHCT32FT	IC, CMOS STANDARD LOGIC OR GATE	E.S.D.
IC3003	AT24C21	IC, 2K EEP ROM DDC MEMORY	E.S.D.
IC3004	SN74AHC157PW	IC, CMOS STANDARD LOGIC MULIPLEXER	E.S.D.
	OR 74VHC157MTCX	IC, CMOS STANDARD LOGIC MULIPLEXER	E.S.D.
IC3005	M52347FP	IC, LINEAR	
IC3501	M62353GP	IC, LINEAR D/A CONVERTER	
IC3502	ET6050S0B	IC, LINEAR	
IC3503	ET6050S0B	IC, LINEAR	
IC3504	ET6050S0B	IC, LINEAR	
IC3505	ET6050S0B	IC, LINEAR	
IC3506	ET6050S0B	IC, LINEAR	
IC3507	ET6050S0B	IC, LINEAR	
IC3508	BU4053BCF	IC, CMOS STANDARD LOGIC	E.S.D. MKA
IC3509	LC4105V-TLM	IC, CMOS STANDARD LOGIC LEVEL SHIFTER	E.S.D.
IC3510	LC4105V-TLM	IC, CMOS STANDARD LOGIC LEVEL SHIFTER	E.S.D.
IC4001	BU4053BCF	IC, CMOS STANDARD LOGIC	E.S.D. MKA
IC4002	AN5265	IC, LINEAR AUDIO AMP	
IC4003	AN78L05M-E1	IC, LINEAR+5V REGULATOR	
IC4004	M62353GP	IC, LINEAR D/A CONVERTER	
IC6002	SN74LV14APWR	IC, CMOS STANDARD LOGIC OR GATE	E.S.D.
	OR TC74VHC14FT	IC, CMOS STANDARD LOGIC OR GATE	E.S.D.
	OR 74VHC14MTCX	IC, CMOS STANDARD LOGIC OR GATE	E.S.D.
IC6003	SN74LV14APWR	IC, CMOS STANDARD LOGIC OR GATE	E.S.D.
	OR TC74VHC14FT	IC, CMOS STANDARD LOGIC OR GATE	E.S.D.
	OR 74VHC14MTCX	IC, CMOS STANDARD LOGIC OR GATE	E.S.D.
IC6004	UPD4721GS	IC, RS232C DRIVER	E.S.D.
IC6005	TWM7000-15	IC, 4BIT MICROCONTROLLER	E.S.D.
IC6006	SN74AHT541PW	IC, CMOS STANDARD LOGIC BUFFER	E.S.D.
	OR TC74VHCT541T	IC, CMOS STANDARD LOGIC BUFFER	E.S.D.
IC6007	HD64F2148FS4	IC, 16BIT MICROCONTROLLER	E.S.D. / PT-L759U/E
	HD64F2148FS5	IC, 16BIT MICROCONTROLLER	E.S.D. PT-L759A
IC6008	MN13821-RTX	IC, LOGIC RESET	E.S.D.
IC6009	AT24C02NSCTL	IC, 2K EEP ROM	E.S.D.
IC6010	AT24C04NSCTL	IC, 4K EEP ROM	E.S.D.
IC6601	D789800GBA30	IC, 8BIT MICROCONTROLLER USB	E.S.D.
IC6602	MN13821-MTX	IC, LOGIC RESET	E.S.D.
		TRANSISTORS	
Q1901	2SC4081T106R	CHIP	
	OR 2SD1819A	CHIP	
Q1902	2SC4081T106R	CHIP	
	OR 2SD1819A(R,S)	CHIP	
Q1904	2SK2839TE16L	FET CHIP	
Q1905	2SK2839TE16L	FET CHIP	
Q1906	2SA1576A106R	CHIP	
	OR 2SB1218ARS	CHIP	
Q2003	2SB1073(Q,R)	CHIP	
	OR 2SB1386T100Q	CHIP	
Q2003	2SA1576A106R	CHIP	
	OR 2SB1218ARS	CHIP	
Q2005	2SA1576A106R	CHIP	

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Ref. No.	Part No.	Part Name& Description	Remarks
	OR 2SB1218ARS	CHIP	
Q2006	2SA1576A106R	CHIP	
	OR 2SB1218ARS	CHIP	
Q2007	2SA1576A106R	CHIP	
	OR 2SB1218A	CHIP	
Q2008	2SA1576A106R	CHIP	
	OR 2SB1218A	CHIP	
Q2009	2SA1576A106R	CHIP	
	OR 2SB1218A	CHIP	
Q2010	2SC4081T106R	CHIP	
	OR 2SD1819A(R,S)	CHIP	
Q2011	2SC4081T106R	CHIP	
	OR 2SD1819A(R,S)	CHIP	
Q2012	2SC4081T106R	CHIP	
	OR 2SD1819A(R,S)	CHIP	
Q2013	2SD1819(S)	CHIP	
	OR 2SD1819A(S)	CHIP	
Q2014	2SD1819(S)	CHIP	
	OR 2SD1819A(S)	CHIP	
Q2015	2SD1819(S)	CHIP	
	OR 2SD1819A(S)	CHIP	
Q2016	2SC4081T106R	CHIP	
	OR 2SD1819A(R,S)	CHIP	
Q3001	2SC4965YV-TL	CHIP	
	OR 2SC558000L	CHIP	
	OR 2SC563200L	CHIP	
Q3002	2SC4965YV-TL	CHIP	
	OR 2SC558000L	CHIP	
	OR 2SC563200L	CHIP	
Q3003	2SC4965YV-TL	CHIP	
	OR 2SC558000L	CHIP	
	OR 2SC563200L	CHIP	
Q3004	2SC4965YV-TL	CHIP	
	OR 2SC558000L	CHIP	
	OR 2SC563200L	CHIP	
Q3005	2SC4965YV-TL	CHIP	
	OR 2SC558000L	CHIP	
	OR 2SC563200L	CHIP	
Q3006	2SC4965YV-TL	CHIP	
	OR 2SC558000L	CHIP	
	OR 2SC563200L	CHIP	
Q3010	2SC4081T106R	CHIP	
	OR 2SD1819A	CHIP	
Q3011	2SC4965YV-TL	CHIP	
	OR 2SC558000L	CHIP	
	OR 2SC563200L	CHIP	
Q3012	2SA1576A106R	CHIP	
	OR 2SB1218A	CHIP	
Q3013	2SA1576A106R	CHIP	
	OR 2SB1218A	CHIP	
Q3014	2SA1576A106R	CHIP	
	OR 2SB1218A	CHIP	
Q3015	2SA1576A106R	CHIP	
	OR 2SB1218A	CHIP	

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Ref. No.	Part No.	Part Name& Description	Remarks
Q3016	2SA1576A106R	CHIP	
	OR 2SB1218A	CHIP	
Q3017	DTC144EU	CHIP	
	OR UN5213	CHIP	
Q3018	2SC4081T106R	CHIP	
	OR 2SD1819A	CHIP	
Q3019	2SC4081T106R	CHIP	
	OR 2SD1819A	CHIP	
Q3020	2SC4081T106R	CHIP	
	OR 2SD1819A	CHIP	
Q3021	2SC4081T106R	CHIP	
	OR 2SD1819A	CHIP	
Q3022	2SC4081T106R	CHIP	
	OR 2SD1819A	CHIP	
Q3023	DTC144EU	CHIP	
	OR UN5213	CHIP	
Q3024	2SC4081T106R	CHIP	
	OR 2SD1819A	CHIP	
Q3025	2SC4965YV-TL	CHIP	
	OR 2SC558000L	CHIP	
	OR 2SC563200L	CHIP	
Q3026	2SA1576A106R	CHIP	
	OR 2SB1218A	CHIP	
Q3027	2SA1576A106R	CHIP	
	OR 2SB1218A	CHIP	
Q3028	2SC4965YV-TL	CHIP	
	OR 2SC558000L	CHIP	
	OR 2SC563200L	CHIP	
Q3029	2SC4081T106R	CHIP	
	OR 2SD1819A	CHIP	
Q3030	2SC4081T106R	CHIP	
	OR 2SD1819A	CHIP	
Q3501	2SA1576A106R	CHIP	
	OR 2SB1218A	CHIP	
Q3502	2SA1576A106R	CHIP	
	OR 2SB1218ARS	CHIP	
Q3503	2SC4081T106R	CHIP	
	OR 2SD1819A(R,S)	CHIP	
Q3504	2SC4081T106R	CHIP	
	OR 2SD1819A(R,S)	CHIP	
Q3505	2SA1576A106R	CHIP	
	OR 2SB1218ARS	CHIP	
Q3506	2SC4081T106R	CHIP	
	OR 2SD1819A(R,S)	CHIP	
Q3507	2SA1576A106R	CHIP	
	OR 2SB1218ARS	CHIP	
Q3508	2SA1576A106R	CHIP	
	OR 2SB1218ARS	CHIP	
Q3509	2SC4081T106R	CHIP	
	OR 2SD1819A(R,S)	CHIP	
Q3510	2SC4081T106R	CHIP	
	OR 2SD1819A(R,S)	CHIP	
Q3511	2SA1576A106R	CHIP	
	OR 2SB1218ARS	CHIP	

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Ref. No.	Part No.	Part Name& Description	Remarks
Q3512	2SC4081T106R	CHIP	
	OR 2SD1819A(R,S)	CHIP	
Q3513	2SA1576A106R	CHIP	
	OR 2SB1218ARS	CHIP	
Q3514	2SA1576A106R	CHIP	
	OR 2SB1218ARS	CHIP	
Q3515	2SC4081T106R	CHIP	
	OR 2SD1819A(R,S)	CHIP	
Q3516	2SC4081T106R	CHIP	
	OR 2SD1819A(R,S)	CHIP	
Q3517	2SA1576A106R	CHIP	
	OR 2SB1218ARS	CHIP	
Q3518	2SC4081T106R	CHIP	
	OR 2SD1819A(R,S)	CHIP	
Q3519	2SA1576A106R	CHIP	
	OR 2SB1218ARS	CHIP	
Q4001	2SC4081T106R	CHIP	
	OR 2SD1819A	CHIP	
Q4003	2SC4081T106R	CHIP	
	OR 2SD1819A	CHIP	
Q4004	2SC4081T106R	CHIP	
	OR 2SD1819A	CHIP	
Q4006	2SC4081T106R	CHIP	
	OR 2SD1819A	CHIP	
Q4007	2SA1576A106R	CHIP	
	OR 2SB1218A	CHIP	
Q4008	2SA1576A106R	CHIP	
	OR 2SB1218A	CHIP	
Q4009	2SC4081T106R	CHIP	
	OR 2SD1819A	CHIP	
Q4010	2SC4081T106R	CHIP	
	OR 2SD1819A	CHIP	
Q4011	2SA1576A106R	CHIP	
	OR 2SB1218A	CHIP	
Q4012	2SD1819(R)	CHIP	
	OR 2SD1819A(R)	CHIP	
Q4013	2SD1819(R)	CHIP	
	OR 2SD1819A(R)	CHIP	
Q4014	2SA1576A106R	CHIP	
	OR 2SB1218A	CHIP	
Q4015	2SA1576A106R	CHIP	
	OR 2SB1218A	CHIP	
Q4016	2SD1119(R)	CHIP	
	OR 2SD2150T100R	CHIP	
Q4017	DTA124EU	CHIP	
	OR UN5112	CHIP	
Q4018	DTC144EU	CHIP	
	OR UN5213	CHIP	
Q4019	2SC4081T106R	CHIP	
	OR 2SD1819A(R,S)	CHIP	
Q4020	2SC4081T106R	CHIP	
	OR 2SD1819A(R,S)	CHIP	
Q4021	2SA1576A106R	CHIP	
	OR 2SB1218A	CHIP	

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Ref. No.	Part No.	Part Name& Description	Remarks
Q4022	2SC4081T106R	CHIP	
	OR 2SD1819A	CHIP	
Q5013	2SC4081T106R	CHIP	
	OR 2SD1819A(R,S)	CHIP	
Q5017	2SC4081T106R	CHIP	
	OR 2SD1819A(R,S)	CHIP	
Q5021	2SC4081T106R	CHIP	
	OR 2SD1819A(R,S)	CHIP	
Q5044	2SC4081T106R	CHIP	
	OR 2SD1819A(R,S)	CHIP	
Q5045	2SC4081T106R	CHIP	
	OR 2SD1819A(R,S)	CHIP	
Q5046	2SC4081T106R	CHIP	
	OR 2SD1819A(R,S)	CHIP	
Q5047	2SC4081T106R	CHIP	
	OR 2SD1819A(R,S)	CHIP	
Q6001	2SC4081T106R	CHIP	
	OR 2SD1819A	CHIP	
Q6002	2SC4081T106R	CHIP	
	OR 2SD1819A	CHIP	
Q6003	DTC144EU	CHIP	
	OR UN5213	CHIP	
Q6004	DTA144EU	CHIP	
	OR UN5113	CHIP	
Q6005	DTA144EU	CHIP	
	OR UN5113	CHIP	
Q6006	DTA144EU	CHIP	
	OR UN5113	CHIP	
Q6007	2SA1576A106R	CHIP	
	OR 2SB1218A	CHIP	
Q6008	2SA1576A106R	CHIP	
	OR 2SB1218A	CHIP	
		DIODES	
D1961	DAN202UT	CHIP	
	OR MA142WK	CHIP	
D1962	MA111	CHIP	
	OR / 1SS355TE-17	CHIP	
D2003	MA111	CHIP	
	OR / 1SS355TE-17	CHIP	
D2006	MA111	CHIP	
	OR / 1SS355TE-17	CHIP	
D2007	SFPM-52V		
D3001	NNCD6.2G-T1	ZENER CHIP 6.2V	
D3002	NNCD6.2G-T1	ZENER CHIP 6.2V	
D4001	NNCD6.2F-T1B	ZENER CHIP 6.2V	
D4002	NNCD6.2F-T1B	ZENER CHIP 6.2V	
D4003	NNCD6.2F-T1B	ZENER CHIP 6.2V	
D4004	NNCD6.2F-T1B	ZENER CHIP 6.2V	
D4005	NNCD6.2F-T1B	ZENER CHIP 6.2V	
D4006	NNCD6.2F-T1B	ZENER CHIP 6.2V	
D4007	DAN202UT	CHIP	
	OR MA142WK	CHIP	

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Ref. No.	Part No.	Part Name& Description	Remarks
D4008	MA111	CHIP	
	OR / 1SS355TE-17	CHIP	
D4009	MA111	CHIP	
	OR / 1SS355TE-17	CHIP	
D4010	MA8100	ZENER CHIP 10V	
D4011	MA111	CHIP	
	OR / 1SS355TE-17	CHIP	
D5002	NNCD6.2F-T1B	ZENER CHIP 6.2V	
D5004	NNCD6.2F-T1B	ZENER CHIP 6.2V	
D5006	NNCD6.2F-T1B	ZENER CHIP 6.2V	
D6001	NNCD6.2G-T1	ZENER CHIP 6.2V	
D6002	NNCD6.2G-T1	ZENER CHIP 6.2V	
D6003	RD13S	ZENER CHIP 13V	
D6004	RD13S	ZENER CHIP 13V	
D6009	NNCD12F-T1B	ZENER CHIP 12V	
D6013	RD6.2S	ZENER CHIP 6.2V	
D6014	NNCD12F-T1B	ZENER CHIP 12V	
D6016	RD13S	ZENER CHIP 13V	
D6017	RD13S	ZENER CHIP 13V	
D6018	DAN202UT	CHIP	
	OR MA142WK	CHIP	
D6019	DAN202UT	CHIP	
	OR MA142WK	CHIP	
D6022	RD6.2S	ZENER CHIP 6.2V	
D6023	RD6.2S	ZENER CHIP 6.2V	
D6026	MA111	CHIP	PT-L759A
	OR / 1SS355TE-17	CHIP	PT-L759A
D6035	MA111	CHIP	
	OR / 1SS355TE-17	CHIP	
D6036	MA111	CHIP	
	OR / 1SS355TE-17	CHIP	
D6037	MA111	CHIP	
	OR / 1SS355TE-17	CHIP	
D6038	MA111	CHIP	
	OR / 1SS355TE-17	CHIP	
D6039	NNCD6.2G-T1	ZENER CHIP 6.2V	
D6040	NNCD6.2G-T1	ZENER CHIP 6.2V	
D6601	NNCD6.2F-T1B	ZENER CHIP 6.2V	
D6602	RD6.2S	ZENER CHIP 6.2V	
D6603	MA111	CHIP	
	OR / 1SS355TE-17	CHIP	
D6604	MA111	CHIP	
	OR / 1SS355TE-17	CHIP	
		RESISTORS	
R1901	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R1902	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R1903	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R1904	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R1905	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R1906	ERJ3GEYJ153V	MGF CHIP 1/16W 15K	
R1908	ERJ3GEYJ153V	MGF CHIP 1/16W 15K	
R1909	ERJ8GEYJ222V	MGF CHIP 1/8W 2.2K	

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Ref. No.	Part No.	Part Name& Description	Remarks
R1910	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R1911	ERJ8GEYJ222V	MGF CHIP 1/8W 2.2K	
R1912	ERJ3GEYJ153V	MGF CHIP 1/16W 15K	
R1913	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R1914	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R1915	ERJ3GEYJ272V	MGF CHIP 1/16W 2.7K	
R1916	ERJ3GEYJ153V	MGF CHIP 1/16W 15K	
R1917	ERA3YED123V	MGF CHIP+-0.5% 1/16W 12K	
R1918	ERA3YED102V	MGF CHIP+-0.5% 1/16W 1K	
R1951	ERJ6GEY0R00V	MGF CHIP 1/10W 0	●
R1961	ERJ3GEYJ272V	MGF CHIP 1/16W 2.7K	
R1962	ERJ3GEYJ153V	MGF CHIP 1/16W 15K	
R1963	ERA3YED103V	MGF CHIP+-0.5% 1/16W 10K	
R1965	ERA3YED102V	MGF CHIP+-0.5% 1/16W 1K	
R1966	ERA3YED682V	MGF CHIP+-0.5% 1/16W 6.8K	
R1967	ERJ3GEYJ272V	MGF CHIP 1/16W 2.7K	
R1968	ERJ3GEYJ153V	MGF CHIP 1/16W 15K	
R1969	ERA3YED103V	MGF CHIP+-0.5% 1/16W 10K	
R1971	ERA3YED102V	MGF CHIP+-0.5% 1/16W 1K	
R1972	ERA3YED682V	MGF CHIP+-0.5% 1/16W 6.8K	
R1973	ERJ3GEYJ682V	MGF CHIP 1/16W 6.8K	
R1974	ERJ3GEYJ682V	MGF CHIP 1/16W 6.8K	
R1975	ERJ3GEYJ682V	MGF CHIP 1/16W 6.8K	
R1977	ERJ14Y0R00H	MGF CHIP 0	●
R1978	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R1979	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
R2003	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
R2005	ERJ3GEYJ332V	MGF CHIP 1/16W 3.3K	
R2006	ERJ3GEYJ302V	MGF CHIP 1/16W 3K	
R2007	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R2008	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R2009	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R2010	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R2011	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R2012	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R2014	MNR14EABJ220	ARRAY CHIP 22	
R2015	ERJ3GEYJ331V	MGF CHIP 1/16W 330	
R2016	MNR14EABJ220	ARRAY CHIP 22	
R2017	ERJ3GEYJ105V	MGF CHIP 1/16W 1M	
R2018	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
R2019	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
R2020	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
R2021	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2022	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2023	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2024	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R2025	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
R2026	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
R2027	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
R2028	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
R2029	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	

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Ref. No.	Part No.	Part Name& Description	Remarks
R2030	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
R2031	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
R2032	MNR14EABJ220	ARRAY CHIP 22	
R2034	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
R2035	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2036	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2037	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2039	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2040	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
R2041	ERJ3GEYJ470V	MGF CHIP 1/16W 47	
R2042	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
R2043	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R2044	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R2045	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2046	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R2047	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2048	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2049	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2050	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2051	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2052	ERJ3GEYJ470V	MGF CHIP 1/16W 47	
R2053	MNR14EABJ220	ARRAY CHIP 22	
R2054	MNR14EABJ220	ARRAY CHIP 22	
R2055	ERJ3GEYJ470V	MGF CHIP 1/16W 47	
R2056	MNR14EABJ220	ARRAY CHIP 22	
R2057	MNR14EABJ220	ARRAY CHIP 22	
R2058	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2059	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2060	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2062	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R2063	MNR14EABJ220	ARRAY CHIP 22	
R2064	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2065	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2067	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
R2068	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R2070	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R2073	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R2074	MNR14EABJ220	ARRAY CHIP 22	
R2075	MNR14EABJ220	ARRAY CHIP 22	
R2076	MNR14EABJ220	ARRAY CHIP 22	
R2077	MNR14EABJ220	ARRAY CHIP 22	
R2078	MNR14EABJ220	ARRAY CHIP 22	
R2079	MNR14EABJ220	ARRAY CHIP 22	
R2080	MNR14EABJ220	ARRAY CHIP 22	
R2081	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
R2082	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2084	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
R2085	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2086	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2087	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2088	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
R2089	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●

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Ref. No.	Part No.	Part Name& Description	Remarks
R2090	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
R2091	ERJ3GEYJ105V	MGF CHIP 1/16W 1M	
R2092	ERJ3GEYJ331V	MGF CHIP 1/16W 330	
R2093	MNR14EABJ220	ARRAY CHIP 22	
R2094	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
R2095	MNR14EABJ220	ARRAY CHIP 22	
R2096	MNR14EABJ220	ARRAY CHIP 22	
R2097	MNR14EABJ220	ARRAY CHIP 22	
R2100	MNR14EABJ220	ARRAY CHIP 22	
R2103	MNR14EABJ220	ARRAY CHIP 22	
R2104	ERJ12YJ2R2H	MGF CHIP 1/2W 2.2	
R2106	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
R2107	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
R2108	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
R2111	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
R2112	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2113	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R2114	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2115	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2116	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2117	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2118	MNR14EABJ220	ARRAY CHIP 22	
R2119	MNR14EABJ220	ARRAY CHIP 22	
R2120	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R2121	MNR14EABJ220	ARRAY CHIP 22	
R2122	MNR14EABJ220	ARRAY CHIP 22	
R2123	MNR14EABJ220	ARRAY CHIP 22	
R2124	MNR14EABJ220	ARRAY CHIP 22	
R2125	MNR14EABJ220	ARRAY CHIP 22	
R2126	MNR14EABJ220	ARRAY CHIP 22	
R2127	MNR14EABJ220	ARRAY CHIP 22	
R2128	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R2129	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2130	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2131	MNR14EABJ220	ARRAY CHIP 22	
R2132	MNR14EABJ220	ARRAY CHIP 22	
R2133	MNR14EABJ220	ARRAY CHIP 22	
R2139	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R2140	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R2141	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R2142	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
R2143	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R2144	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R2146	MNR14EABJ220	ARRAY CHIP 22	
R2147	MNR14EABJ220	ARRAY CHIP 22	
R2148	MNR14EABJ220	ARRAY CHIP 22	
R2149	MNR14EABJ220	ARRAY CHIP 22	
R2150	MNR14EABJ220	ARRAY CHIP 22	
R2151	MNR14EABJ220	ARRAY CHIP 22	
R2155	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R2156	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2157	ERJ3GEYJ220V	MGF CHIP 1/16W 22	

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Ref. No.	Part No.	Part Name& Description	Remarks
R2158	MNR14EABJ220	ARRAY CHIP 22	
R2159	MNR14EABJ220	ARRAY CHIP 22	
R2160	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
R2161	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
R2162	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
R2163	MNR14EABJ220	ARRAY CHIP 22	
R2164	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2165	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R2166	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R2167	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R2168	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2169	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2170	MNR14EABJ220	ARRAY CHIP 22	
R2171	MNR14EABJ220	ARRAY CHIP 22	
R2172	ERJ6GEY0R00V	MGF CHIP 1/10W 0	●
R2173	ERA3YED222V	MGF CHIP+-0.5% 1/16W 2.2K	
R2174	ERA3YED222V	MGF CHIP+-0.5% 1/16W 2.2K	
R2175	ERA3YED222V	MGF CHIP+-0.5% 1/16W 2.2K	
R2176	ERJ3GEYJ332V	MGF CHIP 1/16W 3.3K	
R2177	ERJ3GEYJ332V	MGF CHIP 1/16W 3.3K	
R2178	ERJ3GEYJ332V	MGF CHIP 1/16W 3.3K	
R2179	ERJ3GEYJ121V	MGF CHIP 1/16W 120	
R2180	ERJ3GEYJ121V	MGF CHIP 1/16W 120	
R2181	ERJ3GEYJ121V	MGF CHIP 1/16W 120	
R2182	ERJ3GEYJ561V	MGF CHIP 1/16W 560	
R2183	ERJ3GEYJ561V	MGF CHIP 1/16W 560	
R2184	ERJ3GEYJ561V	MGF CHIP 1/16W 560	
R2185	ERJ3GEYJ182V	MGF CHIP 1/16W 1.8K	
R2186	ERJ3GEYJ182V	MGF CHIP 1/16W 1.8K	
R2187	ERJ3GEYJ182V	MGF CHIP 1/16W 1.8K	
R2188	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R2189	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R2190	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R2191	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R2192	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R2193	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R2194	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R2195	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R2196	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R2197	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R2198	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R2199	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R2200	ERJ3GEYJ561V	MGF CHIP 1/16W 560	
R2201	ERJ3GEYJ561V	MGF CHIP 1/16W 560	
R2202	ERJ3GEYJ561V	MGF CHIP 1/16W 560	
R2204	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R2205	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
R2206	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
R2207	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
R2208	MNR14EABJ220	ARRAY CHIP 22	
R2208	MNR14EABJ220	ARRAY CHIP 22	
R2209	MNR14EABJ220	ARRAY CHIP 22	

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Ref. No.	Part No.	Part Name& Description	Remarks
R2210	ERJ3GEYJ470V	MGF CHIP 1/16W 47	
R2211	ERJ3GEYJ470V	MGF CHIP 1/16W 47	
R2212	MNR14EABJ220	ARRAY CHIP 22	
R2213	MNR14EABJ220	ARRAY CHIP 22	
R2214	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
R2215	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
R2216	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
R2221	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2236	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2237	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
R2238	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
R2241	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R2242	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
R2243	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
R2250	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R2251	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R2252	ERJ3GEYJ470V	MGF CHIP 1/16W 47	
R2253	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R2254	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
R2255	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R2256	ERJ3GEYJ104V	MGF CHIP 1/16W 100K	
R2257	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R2258	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R3001	ERA3YHD750V	MGF CHIP+-0.5% 1/16W 75	
R3002	ERA3YHD750V	MGF CHIP+-0.5% 1/16W 75	
R3003	ERA3YHD750V	MGF CHIP+-0.5% 1/16W 75	
R3004	ERJ3GEYJ183V	MGF CHIP 1/16W 18K	
R3005	ERJ3GEYJ183V	MGF CHIP 1/16W 18K	
R3006	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R3007	ERJ3GEYJ183V	MGF CHIP 1/16W 18K	
R3008	ERJ3GEYJ183V	MGF CHIP 1/16W 18K	
R3009	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R3010	ERJ3GEYJ183V	MGF CHIP 1/16W 18K	
R3011	ERJ3GEYJ183V	MGF CHIP 1/16W 18K	
R3012	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R3013	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R3014	ERJ3GEYJ560V	MGF CHIP 1/16W 56	
R3015	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R3016	ERJ3GEYJ560V	MGF CHIP 1/16W 56	
R3017	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R3018	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R3019	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R3020	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R3021	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R3022	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R3023	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R3024	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R3025	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R3026	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R3027	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R3028	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R3029	ERA3YHD750V	MGF CHIP+-0.5% 1/16W 75	

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Ref. No.	Part No.	Part Name& Description	Remarks
R3030	ERA3YHD750V	MGF CHIP+-0.5% 1/16W 75	
R3031	ERA3YHD750V	MGF CHIP+-0.5% 1/16W 75	
R3032	ERJ3GEYJ183V	MGF CHIP 1/16W 18K	
R3033	ERJ3GEYJ183V	MGF CHIP 1/16W 18K	
R3034	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R3035	ERJ3GEYJ183V	MGF CHIP 1/16W 18K	
R3036	ERJ3GEYJ183V	MGF CHIP 1/16W 18K	
R3037	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R3038	ERJ3GEYJ183V	MGF CHIP 1/16W 18K	
R3039	ERJ3GEYJ183V	MGF CHIP 1/16W 18K	
R3040	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R3041	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R3042	ERJ3GEYJ560V	MGF CHIP 1/16W 56	
R3043	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R3044	ERJ3GEYJ560V	MGF CHIP 1/16W 56	
R3053	ERJ3GEYJ272V	MGF CHIP 1/16W 2.7K	
R3054	ERJ3GEYJ272V	MGF CHIP 1/16W 2.7K	
R3055	ERJ3GEYJ104V	MGF CHIP 1/16W 100K	
R3056	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
R3057	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R3058	ERJ3GEYJ561V	MGF CHIP 1/16W 560	
R3059	ERJ3GEYJ561V	MGF CHIP 1/16W 560	
R3060	ERJ3GEYJ104V	MGF CHIP 1/16W 100K	
R3061	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R3062	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R3063	ERJ3GEYJ561V	MGF CHIP 1/16W 560	
R3064	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R3065	ERJ3GEYJ183V	MGF CHIP 1/16W 18K	
R3066	ERJ3GEYJ124V	MGF CHIP 1/16W 120K	
R3067	ERJ3GEYJ104V	MGF CHIP 1/16W 100K	
R3068	ERJ3GEYJ471V	MGF CHIP 1/16W 470	
R3069	ERJ3GEYJ182V	MGF CHIP 1/16W 1.8K	
R3070	ERJ3GEYJ182V	MGF CHIP 1/16W 1.8K	
R3071	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R3072	ERJ3GEYJ822V	MGF CHIP 1/16W 8.2K	
R3073	ERJ3GEYJ822V	MGF CHIP 1/16W 8.2K	
R3074	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R3075	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R3076	ERJ3GEYJ104V	MGF CHIP 1/16W 100K	
R3077	ERJ3GEYJ104V	MGF CHIP 1/16W 100K	
R3078	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R3079	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R3080	ERJ3GEYJ104V	MGF CHIP 1/16W 100K	
R3081	ERJ3GEYJ184V	MGF CHIP 1/16W 180K	
R3082	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R3083	ERJ3GEYJ822V	MGF CHIP 1/16W 8.2K	
R3084	ERJ3GEYJ392V	MGF CHIP 1/16W 3.9K	
R3085	ERJ3GEYJ392V	MGF CHIP 1/16W 3.9K	
R3086	ERJ3GEYJ392V	MGF CHIP 1/16W 3.9K	
R3087	ERJ3GEYJ822V	MGF CHIP 1/16W 8.2K	
R3088	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R3090	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R3091	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	

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Ref. No.	Part No.	Part Name& Description	Remarks
R3092	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
R3501	ERA3YED333V	MGF CHIP+-0.5% 1/16W 33K	
R3502	ERA3YED682V	MGF CHIP+-0.5% 1/16W 6.8K	
R3503	ERJ3GEYJ681V	MGF CHIP 1/16W 680	
R3504	ERA3YED123V	MGF CHIP+-0.5% 1/16W 12K	
R3505	ERA3YED103V	MGF CHIP+-0.5% 1/16W 10K	
R3506	ERJ3GEYJ121V	MGF CHIP 1/16W 120	
R3507	ERA3YED273V	MGF CHIP+-0.5% 1/16W 27K	
R3508	ERA3YED333V	MGF CHIP+-0.5% 1/16W 33K	
R3509	ERJ3GEYJ272V	MGF CHIP 1/16W 2.7K	
R3510	ERA3YED123V	MGF CHIP+-0.5% 1/16W 12K	
R3511	ERA3YED682V	MGF CHIP+-0.5% 1/16W 6.8K	
R3512	ERJ3GEYJ123V	MGF CHIP 1/16W 12K	
R3513	ERJ3GEYJ682V	MGF CHIP 1/16W 6.8K	
R3514	ERJ3GEYJ123V	MGF CHIP 1/16W 12K	
R3515	ERJ3GEYJ682V	MGF CHIP 1/16W 6.8K	
R3516	ERJ3GEYJ123V	MGF CHIP 1/16W 12K	
R3517	ERJ3GEYJ682V	MGF CHIP 1/16W 6.8K	
R3518	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R3519	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R3520	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
R3521	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R3522	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
R3523	ERJ3GEYJ153V	MGF CHIP 1/16W 15K	
R3524	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
R3525	ERJ3GEYJ153V	MGF CHIP 1/16W 15K	
R3526	ERJ3GEYJ153V	MGF CHIP 1/16W 15K	
R3527	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R3530	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R3531	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R3532	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R3533	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R3534	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R3535	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R3536	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R3537	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R3538	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R3539	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R3540	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R3541	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R3542	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R3543	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R3544	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R3545	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R3546	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R3547	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R3548	ERJ3GEYJ391V	MGF CHIP 1/16W 390	
R3549	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R3550	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R3551	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R3552	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R3553	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R3554	ERJ3GEYJ220V	MGF CHIP 1/16W 22	

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Ref. No.	Part No.	Part Name& Description	Remarks
R3555	ERJ3GEYJ561V	MGF CHIP 1/16W 560	
R3556	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R3557	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R3558	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R3559	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R3560	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R3561	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R3562	ERJ3GEYJ561V	MGF CHIP 1/16W 560	
R3563	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R3564	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R3565	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R3566	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R3567	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R3568	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R3569	ERA3YED123V	MGF CHIP+-0.5% 1/16W 12K	
R3570	ERA3YED152V	MGF CHIP+-0.5% 1/16W 1.5K	
R3571	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R3572	ERA3YED123V	MGF CHIP+-0.5% 1/16W 12K	
R3573	ERA3YED103V	MGF CHIP+-0.5% 1/16W 10K	
R3574	ERJ3GEYJ391V	MGF CHIP 1/16W 390	
R3575	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R3576	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R3577	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R3578	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R3579	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R3580	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R3581	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R3582	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R3583	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R3584	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R3585	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R3586	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R3587	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R3588	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R3589	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R3590	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R3591	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R3592	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R3593	ERJ3GEYJ183V	MGF CHIP 1/16W 18K	
R3594	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R3595	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R3596	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R3597	ERJ3GEYJ100V	MGF CHIP 1/16W 10	
R3598	ERJ3GEYJ100V	MGF CHIP 1/16W 10	
R3599	ERJ3GEYJ100V	MGF CHIP 1/16W 10	
R3600	ERJ3GEYJ100V	MGF CHIP 1/16W 10	
R3601	ERJ3GEYJ183V	MGF CHIP 1/16W 18K	
R3602	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R3603	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R3604	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R3605	ERJ3GEYJ100V	MGF CHIP 1/16W 10	
R3606	ERJ3GEYJ100V	MGF CHIP 1/16W 10	
R3607	ERJ3GEYJ100V	MGF CHIP 1/16W 10	
R3608	ERJ3GEYJ100V	MGF CHIP 1/16W 10	

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Ref. No.	Part No.	Part Name& Description	Remarks
R3609	ERJ3GEYJ183V	MGF CHIP 1/16W 18K	
R3610	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R3611	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R3612	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R3613	ERJ3GEYJ100V	MGF CHIP 1/16W 10	
R3614	ERJ3GEYJ100V	MGF CHIP 1/16W 10	
R3615	ERJ3GEYJ100V	MGF CHIP 1/16W 10	
R3616	ERJ3GEYJ100V	MGF CHIP 1/16W 10	
R4001	ERJ3GEYJ334V	MGF CHIP 1/16W 330K	
R4003	ERJ3GEYJ334V	MGF CHIP 1/16W 330K	
R4004	ERJ3GEYJ334V	MGF CHIP 1/16W 330K	
R4005	ERJ3GEYJ394V	MGF CHIP 1/16W 390K	
R4008	ERJ3GEYJ334V	MGF CHIP 1/16W 330K	
R4009	ERJ3GEYJ394V	MGF CHIP 1/16W 390K	
R4010	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R4012	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R4013	ERJ3GEYJ334V	MGF CHIP 1/16W 330K	
R4015	ERJ3GEYJ334V	MGF CHIP 1/16W 330K	
R4016	ERJ3GEYJ334V	MGF CHIP 1/16W 330K	
R4017	ERJ3GEYJ394V	MGF CHIP 1/16W 390K	
R4020	ERJ3GEYJ334V	MGF CHIP 1/16W 330K	
R4021	ERJ3GEYJ394V	MGF CHIP 1/16W 390K	
R4022	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R4024	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R4025	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R4026	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R4027	ERJ3GEYJ392V	MGF CHIP 1/16W 3.9K	
R4028	ERJ3GEYJ392V	MGF CHIP 1/16W 3.9K	
R4029	ERJ3GEYJ272V	MGF CHIP 1/16W 2.7K	
R4030	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R4031	ERJ3GEYJ224V	MGF CHIP 1/16W 220K	
R4032	ERJ3GEYJ562V	MGF CHIP 1/16W 5.6K	
R4033	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R4034	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R4035	ERJ3GEYJ562V	MGF CHIP 1/16W 5.6K	
R4036	ERJ3GEYJ683V	MGF CHIP 1/16W 68K	
R4037	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R4038	ERJ3GEYJ183V	MGF CHIP 1/16W 18K	
R4039	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R4040	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R4041	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R4042	ERJ3GEYJ124V	MGF CHIP 1/16W 120K	
R4043	ERJ3GEYJ124V	MGF CHIP 1/16W 120K	
R4044	ERJ14YJ271H	MGF CHIP 270	
R4046	ERJ3GEYJ823V	MGF CHIP 1/16W 82K	
R4047	ERJ3GEYJ391V	MGF CHIP 1/16W 390	
R4048	ERJ3GEYJ562V	MGF CHIP 1/16W 5.6K	
R4049	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R4055	ERJ3GEYJ273V	MGF CHIP 1/16W 27K	
R4056	ERJ14YJ100H	MGF CHIP 10	
R4059	ERJ12YJ2R2H	MGF CHIP 1/2W 2.2	
R4060	ERJ12YJ2R2H	MGF CHIP 1/2W 2.2	
R4061	ERJ3GEYJ153V	MGF CHIP 1/16W 15K	
R4062	ERJ3GEYJ331V	MGF CHIP 1/16W 330	

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Ref. No.	Part No.	Part Name& Description	Remarks
R4067	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R4068	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
R4069	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R4070	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
R4071	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R4072	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
R4075	ERJ3GEYJ183V	MGF CHIP 1/16W 18K	
R4076	ERJ3GEYJ183V	MGF CHIP 1/16W 18K	
R4077	ERJ3GEYJ183V	MGF CHIP 1/16W 18K	
R4078	ERJ3GEYJ123V	MGF CHIP 1/16W 12K	
R4079	ERJ3GEYJ562V	MGF CHIP 1/16W 5.6K	
R4080	ERJ3GEYJ123V	MGF CHIP 1/16W 12K	
R4081	ERJ3GEYJ562V	MGF CHIP 1/16W 5.6K	
R4082	ERJ3GEYJ123V	MGF CHIP 1/16W 12K	
R4083	ERJ3GEYJ562V	MGF CHIP 1/16W 5.6K	
R4084	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R4085	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R4086	ERJ3GEYJ821V	MGF CHIP 1/16W 820	
R4087	ERJ3GEYJ821V	MGF CHIP 1/16W 820	
R4088	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R4089	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R4090	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R4091	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R4092	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R4093	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R4094	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R5001	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R5002	ERA3YHD750V	MGF CHIP+-0.5% 1/16W 75	
R5003	ERJ3GEYJ104V	MGF CHIP 1/16W 100K	
R5004	ERA3YHD750V	MGF CHIP+-0.5% 1/16W 75	
R5005	ERA3YHD750V	MGF CHIP+-0.5% 1/16W 75	
R5020	ERJ3GEYJ273V	MGF CHIP 1/16W 27K	
R5025	ERJ3GEYJ183V	MGF CHIP 1/16W 18K	
R5027	ERJ3GEYJ273V	MGF CHIP 1/16W 27K	
R5036	ERJ3GEYJ183V	MGF CHIP 1/16W 18K	
R5038	ERJ3GEYJ273V	MGF CHIP 1/16W 27K	
R5039	ERJ3GEYJ183V	MGF CHIP 1/16W 18K	
R5050	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R5051	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R5053	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R5160	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R5161	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R5162	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R5163	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R5164	ERJ3GEYJ273V	MGF CHIP 1/16W 27K	
R5165	ERJ3GEYJ183V	MGF CHIP 1/16W 18K	
R5166	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
R5167	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
R5168	ERJ3GEY0R00V	MGF CHIP 1/16W 0	●
R6001	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R6005	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R6006	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R6007	ERJ3GEYJ101V	MGF CHIP 1/16W 100	

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Ref. No.	Part No.	Part Name& Description	Remarks
R6008	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R6009	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R6010	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6011	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6012	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R6013	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R6014	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R6015	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R6016	ERJ3GEYJ681V	MGF CHIP 1/16W 680	
R6017	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6018	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R6019	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R6020	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R6021	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R6022	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R6023	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R6024	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R6025	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R6026	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R6027	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R6028	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6029	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6030	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6031	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6032	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6034	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6035	MNR14EABJ102	ARRAY CHIP 1K	
R6036	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R6037	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R6038	MNR14EABJ473	ARRAY CHIP 47K	
R6039	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R6040	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R6041	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R6042	ERA3YED333V	MGF CHIP+-0.5% 1/16W 33K	
R6043	ERA3YED333V	MGF CHIP+-0.5% 1/16W 33K	
R6044	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R6045	ERJ3GEYJ333V	MGF CHIP 1/16W 33K	
R6046	ERJ3GEYJ333V	MGF CHIP 1/16W 33K	
R6047	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R6048	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R6049	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R6050	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R6051	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R6052	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R6053	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R6054	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R6055	MNR14EABJ473	ARRAY CHIP 47K	
R6056	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6057	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R6058	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6059	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6060	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6061	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6062	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	

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Ref. No.	Part No.	Part Name& Description	Remarks
R6063	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6064	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6065	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6066	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6068	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R6069	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R6070	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R6071	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R6072	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R6073	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6074	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R6075	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R6076	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R6077	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R6078	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R6080	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6081	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6082	ERJ6GEYJ471V	MGF CHIP 1/10W 470	
R6083	ERJ6GEYJ471V	MGF CHIP 1/10W 470	
R6084	ERJ6GEYJ471V	MGF CHIP 1/10W 470	
R6085	ERJ3GEYJ104V	MGF CHIP 1/16W 100K	
R6086	ERJ6GEYJ471V	MGF CHIP 1/10W 470	
R6087	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R6088	ERJ3GEYJ184V	MGF CHIP 1/16W 180K	
R6089	ERJ3GEYJ104V	MGF CHIP 1/16W 100K	
R6090	ERJ3GEYJ184V	MGF CHIP 1/16W 180K	
R6091	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R6092	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6093	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R6094	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6095	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6096	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6097	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R6098	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R6099	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R6100	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R6101	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6102	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6103	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6104	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R6105	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6106	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6107	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6108	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R6109	ERJ6GEYJ471V	MGF CHIP 1/10W 470	
R6110	ERJ6GEYJ471V	MGF CHIP 1/10W 470	
R6111	ERJ6GEYJ471V	MGF CHIP 1/10W 470	
R6112	MNR14EABJ101	ARRAY CHIP 100	
R6113	ERJ3GEYJ560V	MGF CHIP 1/16W 56	
R6114	ERJ3GEYJ560V	MGF CHIP 1/16W 56	
R6115	ERJ6GEYJ271V	MGF CHIP 1/10W 270	
R6116	ERJ3GEYJ560V	MGF CHIP 1/16W 56	
R6117	ERJ3GEYJ560V	MGF CHIP 1/16W 56	
R6118	ERJ6GEYJ271V	MGF CHIP 1/10W 270	

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Ref. No.	Part No.	Part Name& Description	Remarks
R6119	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R6120	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R6121	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R6122	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R6123	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R6124	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R6125	ERJ14Y0R00H	MGF CHIP 0	●
R6128	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6129	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6130	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6132	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R6615	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R6628	ERJ3GEYJ221V	MGF CHIP 1/16W 220	
R6629	ERJ3GEYJ152V	MGF CHIP 1/16W 1.5K	
R6630	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R6631	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R6632	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R6633	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R6634	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
		CAPACITORS	
C1901	ECEV1CA470S	ELECTROLYTIC CHIP 16V 47	
C1902	ECEV1EA330SP	ELECTROLYTIC CHIP 25V 33	
C1903	ECEV0JA101S	ELECTROLYTIC CHIP 6.3V 100	
C1904	ECEV0JA101S	ELECTROLYTIC CHIP 6.3V 100	
C1905	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C1906	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C1907	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C1908	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C1909	ECEV1CA100S	ELECTROLYTIC CHIP 16V 10	
C1910	ECEV1EA100S	ELECTROLYTIC CHIP 25V 10	
C1911	ECEV1EA100S	ELECTROLYTIC CHIP 25V 10	
C1912	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C1914	ECEV1EA100S	ELECTROLYTIC CHIP 25V 10	
C1915	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C1961	ECEV1CA470S	ELECTROLYTIC CHIP 16V 47	
C1962	ECEV1CA470S	ELECTROLYTIC CHIP 16V 47	
C1963	ECEV1CA470S	ELECTROLYTIC CHIP 16V 47	
C1964	ECEV1CA470S	ELECTROLYTIC CHIP 16V 47	
C2001	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2002	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2003	ECST0JY106	TANTALUM CHIP 6.3V 10	
C2005	ECUV1E104KBN	C CHIP 25V 0.1	
C2006	ECUV1E104KBN	C CHIP 25V 0.1	
C2007	ECUV1E104KBN	C CHIP 25V 0.1	
C2008	ECUV1E104KBN	C CHIP 25V 0.1	
C2009	ECUV1E104KBN	C CHIP 25V 0.1	
C2010	ECUV1E104KBN	C CHIP 25V 0.1	
C2011	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2013	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2015	ECUV1C334KBN	C CHIP 16V 0.33	
C2016	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2017	ECUV1H331JCV	C CHIP+-5% 50V 330P	

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Ref. No.	Part No.	Part Name& Description	Remarks
C2018	ECUV1H101JCV	C CHIP+-5% 50V 100P	
C2019	ECUV1H080CCV	C CHIP+-0.25P 50V 8P	
C2020	ECUV1H080CCV	C CHIP+-0.25P 50V 8P	
C2021	ECST1AY106	TANTALUM CHIP 10V 10	
C2022	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2023	ECST1AY106	TANTALUM CHIP 10V 10	
C2024	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2025	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2026	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2027	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2028	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2029	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2030	ECST1AY106	TANTALUM CHIP 10V 10	
C2031	ECST0JY106	TANTALUM CHIP 6.3V 10	
C2032	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2033	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2034	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2035	ECST0JY106	TANTALUM CHIP 6.3V 10	
C2037	ECST1AY106	TANTALUM CHIP 10V 10	
C2038	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2039	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2040	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2041	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2042	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2043	ECST1AY106	TANTALUM CHIP 10V 10	
C2044	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2045	VCUSTBA105KB	C CHIP 10V 1	
C2046	ECST0JY106	TANTALUM CHIP 6.3V 10	
C2047	VCUSTBA105KB	C CHIP 10V 1	
C2048	ECST0JY106	TANTALUM CHIP 6.3V 10	
C2049	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2050	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2051	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2052	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2053	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2054	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2055	ECST1AY106	TANTALUM CHIP 10V 10	
C2056	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2057	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2058	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2059	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2060	ECST1AY106	TANTALUM CHIP 10V 10	
C2061	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2062	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2063	ECST0JY106	TANTALUM CHIP 6.3V 10	
C2064	ECST0JY106	TANTALUM CHIP 6.3V 10	
C2065	ECST0JY106	TANTALUM CHIP 6.3V 10	
C2066	ECST1AY106	TANTALUM CHIP 10V 10	
C2067	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2068	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2069	ECUV1H080CCV	C CHIP+-0.25P 50V 8P	
C2070	ECUV1H080CCV	C CHIP+-0.25P 50V 8P	
C2071	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2072	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	

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Ref. No.	Part No.	Part Name& Description	Remarks
C2073	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2074	ECST0JY106	TANTALUM CHIP 6.3V 10	
C2075	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2076	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2077	ECST1AY106	TANTALUM CHIP 10V 10	
C2078	EEVHA0J470R	ELECTROLYTIC CHIP 6.3V 47	
C2079	ECST0JY226R	TANTALUM CHIP 6.3V 22	
C2080	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2081	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2082	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2083	ECST0JY106	TANTALUM CHIP 6.3V 10	
C2084	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2085	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2086	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2087	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2088	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2089	ECST0JY106	TANTALUM CHIP 6.3V 10	
C2090	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2093	ECST0JY106	TANTALUM CHIP 6.3V 10	
C2094	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2095	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2096	ECST0JY226R	TANTALUM CHIP 6.3V 22	
C2097	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2098	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2099	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2100	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2101	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2102	ECST0JY226R	TANTALUM CHIP 6.3V 22	
C2103	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2104	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2105	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2106	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2107	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2109	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2110	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2112	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2113	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2114	ECST0JY226R	TANTALUM CHIP 6.3V 22	
C2115	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2116	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2117	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2118	ECST0JY106	TANTALUM CHIP 6.3V 10	
C2119	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2120	ECST0JY226R	TANTALUM CHIP 6.3V 22	
C2121	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2122	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2123	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2126	ECST0JY106	TANTALUM CHIP 6.3V 10	
C2127	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2128	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2129	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2130	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2131	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2132	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	

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Ref. No.	Part No.	Part Name& Description	Remarks
C2133	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2134	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2137	ECST0JY226R	TANTALUM CHIP 6.3V 22	
C2138	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2144	ECST0JY106	TANTALUM CHIP 6.3V 10	
C2145	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2146	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2149	ECST0JY106	TANTALUM CHIP 6.3V 10	
C2152	ECUV1C104KBV	C CHIP 16V 0.1	
C2154	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2156	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2157	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2158	VCUSTBA105KB	C CHIP 10V 1	
C2159	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2160	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2161	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2162	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2163	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2164	ECEV0JA101S	ELECTROLYTIC CHIP 6.3V 100	
C2165	ECUV1E104KBN	C CHIP 25V 0.1	
C2166	ECUV1E104KBN	C CHIP 25V 0.1	
C2167	ECUV1E104KBN	C CHIP 25V 0.1	
C2168	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2169	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2170	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2171	ECUV1H221JCV	C CHIP+-5% 50V 220P	
C2172	ECUV1H221JCV	C CHIP+-5% 50V 220P	
C2173	ECUV1H221JCV	C CHIP+-5% 50V 220P	
C2174	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2175	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2176	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2177	ECST1AY106	TANTALUM CHIP 10V 10	
C2178	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2179	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2180	ECST0JY106	TANTALUM CHIP 6.3V 10	
C2181	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2183	ECST0JY106	TANTALUM CHIP 6.3V 10	
C2184	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2185	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2186	ECST1AY106	TANTALUM CHIP 10V 10	
C2187	ECUV1H060CCV	C CHIP+-0.25P 50V 6P	
C2188	ECUV1H060CCV	C CHIP+-0.25P 50V 6P	
C2189	ECST1AY106	TANTALUM CHIP 10V 10	
C2190	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2191	ECST1AY106	TANTALUM CHIP 10V 10	
C2192	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2193	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2194	ECST0JY106	TANTALUM CHIP 6.3V 10	
C2195	VCUSTBA105KB	C CHIP 10V 1	
C2196	VCUSTBA105KB	C CHIP 10V 1	
C2197	ECUV1H103ZFV	C CHIP+80%-20% 50V 0.01	
C2200	ECST1AY106	TANTALUM CHIP 10V 10	
C2203	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2209	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	

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Ref. No.	Part No.	Part Name& Description	Remarks
C2210	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C2222	ECUV1H050CCV	C CHIP+-0.25P 50V 5P	
C2223	ECUV1H050CCV	C CHIP+-0.25P 50V 5P	
C2224	ECUV1H050CCV	C CHIP+-0.25P 50V 5P	
C2225	ECUV1H050CCV	C CHIP+-0.25P 50V 5P	
C2226	ECUV1H050CCV	C CHIP+-0.25P 50V 5P	
C2227	ECUV1H050CCV	C CHIP+-0.25P 50V 5P	
C2234	ECUV1H103KBV	C CHIP 50V 0.01	
C3001	ECEV1CA100S	ELECTROLYTIC CHIP 16V 10	
C3002	ECEV1CA100S	ELECTROLYTIC CHIP 16V 10	
C3003	ECEV1CA100S	ELECTROLYTIC CHIP 16V 10	
C3004	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C3005	ECEV1CA470S	ELECTROLYTIC CHIP 16V 47	
C3006	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C3007	ECEV0JA220S	ELECTROLYTIC CHIP 6.3V 22	
C3008	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C3009	ECEV1CA100S	ELECTROLYTIC CHIP 16V 10	
C3010	ECEV1CA100S	ELECTROLYTIC CHIP 16V 10	
C3011	ECEV1CA100S	ELECTROLYTIC CHIP 16V 10	
C3012	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C3013	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C3017	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C3027	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C3028	ECEV1CA100S	ELECTROLYTIC CHIP 16V 10	
C3029	ECUV1H100CCV	C CHIP+-0.25P 50V 10P	
C3030	ECUV1H103KBV	C CHIP 50V 0.01	
C3031	ECUV1H121JCV	C CHIP+-5% 50V 120P	
C3032	ECEV0JA470S	ELECTROLYTIC CHIP 6.3V 47	
C3033	ECUV1H103ZFV	C CHIP+80%-20% 50V 0.01	
C3034	ECEV1CA100S	ELECTROLYTIC CHIP 16V 10	
C3035	ECUV1H121JCV	C CHIP+-5% 50V 120P	
C3036	ECEV1CA100S	ELECTROLYTIC CHIP 16V 10	
C3037	ECUV1E683KBN	C CHIP 25V 0.068	
C3038	ECUV1H103KBV	C CHIP 50V 0.01	
C3039	ECEV1CA100S	ELECTROLYTIC CHIP 16V 10	
C3040	ECEV1CA100S	ELECTROLYTIC CHIP 16V 10	
C3041	ECUV1H561JCV	C CHIP+-5% 50V 560P	
C3043	ECUV1H101JCV	C CHIP+-5% 50V 100P	
C3044	ECUV1H101JCV	C CHIP+-5% 50V 100P	
C3045	ECUV1C105ZFN	C CHIP+80%-20% 16V 1	
C3046	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C3047	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C3048	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C3049	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C3509	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C3510	ECEV1CA100S	ELECTROLYTIC CHIP 16V 10	
C3511	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C3512	ECUV1H101JCV	C CHIP+-5% 50V 100P	
C3513	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C3514	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C3515	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C3517	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C3518	ECUV1H101JCV	C CHIP+-5% 50V 100P	
C3519	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	

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Ref. No.	Part No.	Part Name& Description	Remarks
C3520	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C3521	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C3523	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C3524	ECUV1H101JCV	C CHIP+-5% 50V 100P	
C3525	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C3526	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C3527	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C3529	ECEV0JA470S	ELECTROLYTIC CHIP 6.3V 47	
C3530	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C3531	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C3532	ECUV1H101JCV	C CHIP+-5% 50V 100P	
C3533	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C3534	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C3535	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C3536	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C3537	ECEV1EA330SP	ELECTROLYTIC CHIP 25V 33	
C3538	ECEV0JA470S	ELECTROLYTIC CHIP 6.3V 47	
C3539	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C3540	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C3541	ECUV1H101JCV	C CHIP+-5% 50V 100P	
C3542	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C3543	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C3544	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C3545	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C3546	ECEV1EA330SP	ELECTROLYTIC CHIP 25V 33	
C3547	ECEV0JA470S	ELECTROLYTIC CHIP 6.3V 47	
C3548	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C3549	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C3550	ECUV1H101JCV	C CHIP+-5% 50V 100P	
C3551	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C3552	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C3553	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C3554	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C3555	ECEV1EA330SP	ELECTROLYTIC CHIP 25V 33	
C3556	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C3557	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C3558	ECUV1E104KBN	C CHIP 25V 0.1	
C3559	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C3560	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C3561	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C3562	ECEV0JA220S	ELECTROLYTIC CHIP 6.3V 22	
C3563	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C3564	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C3565	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C3566	ECEV1EA330SP	ELECTROLYTIC CHIP 25V 33	
C3567	ECEV1EA330SP	ELECTROLYTIC CHIP 25V 33	
C3568	VCUSTBA105KB	C CHIP 10V 1	
C3569	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C3570	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C3571	ECEV1EA330SP	ELECTROLYTIC CHIP 25V 33	
C3572	VCUSTBA105KB	C CHIP 10V 1	
C3573	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C3574	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C3575	ECEV1EA330SP	ELECTROLYTIC CHIP 25V 33	

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Ref. No.	Part No.	Part Name& Description	Remarks
C3576	VCUSTBA105KB	C CHIP 10V 1	
C3577	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C3578	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C4001	VCUSTBA105KB	C CHIP 10V 1	
C4003	VCUSTBA105KB	C CHIP 10V 1	
C4004	VCUSTBA105KB	C CHIP 10V 1	
C4006	VCUSTBA105KB	C CHIP 10V 1	
C4007	ECEV0JA101S	ELECTROLYTIC CHIP 6.3V 100	
C4008	VCUSTBA105KB	C CHIP 10V 1	
C4009	ECUV1H562KBV	C CHIP 50V 5600P	
C4010	ECEV1CA101WP	ELECTROLYTIC CHIP 16V 100	
C4011	ECEV1HA2R2S	ELECTROLYTIC CHIP 50V 2.2	
C4012	ECEV1CA470S	ELECTROLYTIC CHIP 16V 47	
C4013	VCUSTBA105KB	C CHIP 10V 1	
C4014	ECEV1CA100S	ELECTROLYTIC CHIP 16V 10	
C4015	ECEV1EA4R7S	ELECTROLYTIC CHIP 25V 4.7	
C4016	ECEV1CA100S	ELECTROLYTIC CHIP 16V 10	
C4017	ECUV1E333KBV	C CHIP 25V 0.033	
C4018	ECUV1C473KBV	C CHIP 16V 0.047	
C4019	ECEV1CA471P	ELECTROLYTIC CHIP 16V 470	
C4020	ECEV1CA101WP	ELECTROLYTIC CHIP 16V 100	
C4021	ECEV1EA101UP	ELECTROLYTIC 25V 100	
C4022	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C4023	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C4024	ECEV1CA101WP	ELECTROLYTIC CHIP 16V 100	
C4031	ECEV0JA470S	ELECTROLYTIC CHIP 6.3V 47	
C4035	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C4036	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C4044	ECEV1CA100S	ELECTROLYTIC CHIP 16V 10	
C4045	ECEV1CA100S	ELECTROLYTIC CHIP 16V 10	
C5001	ECUV1H103ZFV	C CHIP+80%-20% 50V 0.01	
C5002	ECUV1E473ZFV	C CHIP+80%-20% 25V 0.047	
C5031	ECEV1CA220S	ELECTROLYTIC CHIP 16V 22	
C5037	ECEV1CA470S	ELECTROLYTIC CHIP 16V 47	
C5045	ECUV1H103ZFV	C CHIP+80%-20% 50V 0.01	
C5058	ECEV1CA220S	ELECTROLYTIC CHIP 16V 22	
C5059	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C5143	ECUV1H820JCV	C CHIP+-5% 50V 82P	
C6001	ECEV0JA470S	ELECTROLYTIC CHIP 6.3V 47	
C6003	ECUV1H103ZFV	C CHIP+80%-20% 50V 0.01	
C6004	ECUV1H103ZFV	C CHIP+80%-20% 50V 0.01	
C6005	ECEV0JA470S	ELECTROLYTIC CHIP 6.3V 47	
C6006	ECUV1H103ZFV	C CHIP+80%-20% 50V 0.01	
C6007	ECUV1H102KBV	C CHIP 50V 1000P	
C6008	ECEV0JA101S	ELECTROLYTIC CHIP 6.3V 100	
C6009	ECEV1VS2R2S	ELECTROLYTIC CHIP 35V 2.2	
C6010	ECEV1VS2R2S	ELECTROLYTIC CHIP 35V 2.2	
C6011	ECEV1VS2R2S	ELECTROLYTIC CHIP 35V 2.2	
C6012	ECEV1VS2R2S	ELECTROLYTIC CHIP 35V 2.2	
C6013	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C6014	ECEV0JA470S	ELECTROLYTIC CHIP 6.3V 47	
C6015	ECUV1H180JCV	C CHIP+-5% 50V 18P	
C6016	ECUV1H101JCV	C CHIP+-5% 50V 100P	
C6017	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	

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Ref. No.	Part No.	Part Name& Description	Remarks
C6018	ECUV1H180JCV	C CHIP+-5% 50V 18P	
C6019	ECUV1H101JCV	C CHIP+-5% 50V 100P	
C6020	ECEV0JA101S	ELECTROLYTIC CHIP 6.3V 100	
C6022	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C6026	ECUV1A105ZFV	C CHIP+80%-20% 10V 1	
C6027	ECUV1A105ZFV	C CHIP+80%-20% 10V 1	
C6029	ECUV1H101JCV	C CHIP+-5% 50V 100P	
C6030	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C6031	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C6032	ECUV1H103ZFV	C CHIP+80%-20% 50V 0.01	
C6033	ECEV0JA101S	ELECTROLYTIC CHIP 6.3V 100	
C6034	ECEV0JA101S	ELECTROLYTIC CHIP 6.3V 100	
C6035	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C6036	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C6037	ECEV0JA101S	ELECTROLYTIC CHIP 6.3V 100	
C6038	ECUV1H060CCV	C CHIP+-0.25P 50V 6P	
C6039	ECUV1H060CCV	C CHIP+-0.25P 50V 6P	
C6040	ECUV1C104KBV	C CHIP 16V 0.1	
C6041	ECUV1H101JCV	C CHIP+-5% 50V 100P	
C6042	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C6043	ECEV0JA470S	ELECTROLYTIC CHIP 6.3V 47	
C6601	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C6602	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C6603	ECUV1E104ZFV	C CHIP+80%-20% 25V 0.1	
C6604	ECST1AY106	TANTALUM CHIP 10V 10	
C6605	ECUV1H102KBV	C CHIP 50V 1000P	
		FILTERS	
FL3001	LSLFAA1H101	L/C COMPLX CMP 50V 100P	
FL3002	NFM51R20P207	L/C COMPLX CMP 200	
FL3003	LSLFAA1H101	L/C COMPLX CMP 50V 100P	
FL3004	LSLFAA1H101	L/C COMPLX CMP 50V 100P	
FL3005	LSLFAA1H101	L/C COMPLX CMP 50V 100P	
FL3006	NFM51R20P207	L/C COMPLX CMP 200	
FL3007	LSLFAA1H101	L/C COMPLX CMP 50V 100P	
FL3008	LSLFAA1H101	L/C COMPLX CMP 50V 100P	
FL4001	LSLFAA1H102	L/C COMPLX CMP 50V 1000P	
FL4002	LSLFAA1H102	L/C COMPLX CMP 50V 1000P	
FL4003	LSLFAA1H102	L/C COMPLX CMP 50V 1000P	
FL4004	LSLFAA1H102	L/C COMPLX CMP 50V 1000P	
FL4005	LSLFAA1H102	L/C COMPLX CMP 50V 1000P	
FL4006	LSLFAA1H102	L/C COMPLX CMP 50V 1000P	
FL5001	LSLFAA1H101	L/C COMPLX CMP 50V 100P	
FL5002	LSLFAA1H101	L/C COMPLX CMP 50V 100P	
FL5003	LSLFAA1H101	L/C COMPLX CMP 50V 100P	
FL6001	LSLFAA1H102	L/C COMPLX CMP 50V 1000P	
FL6002	LSLFAA1H102	L/C COMPLX CMP 50V 1000P	
FL6003	LSLFAA1H102	L/C COMPLX CMP 50V 1000P	
FL6004	LSLFAA1H102	L/C COMPLX CMP 50V 1000P	
FL6005	LSLFAA1H102	L/C COMPLX CMP 50V 1000P	
FL6006	LSLFAA1H102	L/C COMPLX CMP 50V 1000P	
FL6007	LSLFAA1H102	L/C COMPLX CMP 50V 1000P	
FL6008	LSLFAA1H102	L/C COMPLX CMP 50V 1000P	

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Ref. No.	Part No.	Part Name& Description	Remarks
FL6009	LSLFAA1H102	L/C COMPLX CMP 50V 1000P	
FL6010	LSLFAA1H102	L/C COMPLX CMP 50V 1000P	
FL6011	LSLFAA1H102	L/C COMPLX CMP 50V 1000P	
FL6012	LSLFAA1H102	L/C COMPLX CMP 50V 1000P	
FL6013	LSLFAA1H102	L/C COMPLX CMP 50V 1000P	
FL6014	LSLFAA1H101	L/C COMPLX CMP 50V 100P	
FL6015	LSLFAA1H101	L/C COMPLX CMP 50V 100P	
FL6016	LSLFAA1H101	L/C COMPLX CMP 50V 100P	
FL6017	LSLFAA1H101	L/C COMPLX CMP 50V 100P	
FL6018	LSLFAA1H101	L/C COMPLX CMP 50V 100P	
FL6019	LSLFAA1H101	L/C COMPLX CMP 50V 100P	
FL6020	LSLFAA1H101	L/C COMPLX CMP 50V 100P	
FL6021	LSLFAA1H101	L/C COMPLX CMP 50V 100P	
FL6022	LSLFAA1H101	L/C COMPLX CMP 50V 100P	
FL6023	LSLFAA1H101	L/C COMPLX CMP 50V 100P	
FL6024	LSLFAA1H101	L/C COMPLX CMP 50V 100P	
FL6025	LSLFAA1H101	L/C COMPLX CMP 50V 100P	
FL6026	LSLFAA1H101	L/C COMPLX CMP 50V 100P	
FL6027	LSLFAA1H101	L/C COMPLX CMP 50V 100P	
FL6028	LSLFAA1H101	L/C COMPLX CMP 50V 100P	
FL6029	LSLFAA1H101	L/C COMPLX CMP 50V 100P	
		COILS	
L2001	FBM2125HS420	CHIP 42	
L2004	FBM2125HS420	CHIP 42	
L2005	FBM2125HS420	CHIP 42	
L2006	FBM2125HS420	CHIP 42	
L2007	VLQ0163J4R7	CHIP+-5% 4.7	
L2008	FBM2125HS420	CHIP 42	
L2009	FBM2125HS420	CHIP 42	
L2010	FBM2125HS420	CHIP 42	
L2011	FBM2125HS420	CHIP 42	
L2012	FBM2125HS420	CHIP 42	
L2013	FBM2125HS420	CHIP 42	
L2014	FBM2125HS420	CHIP 42	
L2016	VLPS0090	CHIP	
L2017	VLQ0163J100	CHIP+-5% 10	
L2018	VLQ0163J331	CHIP+-5% 330	
L2019	VLQ0163J331	CHIP+-5% 330	
L2020	VLQ0163J331	CHIP+-5% 330	
L2022	FBM2125HS420	CHIP 42	
L2023	FBM2125HS420	CHIP 42	
L2024	FBM2125HS420	CHIP 42	
L2025	FBM2125HS420	CHIP 42	
L3001	VLQ0163J220	CHIP+-5% 22	
L3002	VLQ0163J220	CHIP+-5% 22	
L3004	VLQ0163J220	CHIP+-5% 22	
L3501	VLPS0090	CHIP	
L3502	VLQ0163J100	CHIP+-5% 10	
L3503	VLQ0163J220	CHIP+-5% 22	
L3504	VLQ0163J100	CHIP+-5% 10	
L3505	VLQ0163J220	CHIP+-5% 22	
L3506	VLQ0163J100	CHIP+-5% 10	

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Ref. No.	Part No.	Part Name& Description	Remarks
L3507	VLQ0163J220	CHIP+-5% 22	
L3508	VLQ0163J220	CHIP+-5% 22	
L3509	VLPS0090	CHIP	
L3510	VLQ0163J220	CHIP+-5% 22	
L3511	VLQ0163J220	CHIP+-5% 22	
L3512	VLQ0163J220	CHIP+-5% 22	
L3513	VLQ0163J220	CHIP+-5% 22	
L4001	VLQ0163J271	CHIP+-5% 270	
L5006	VLQ0163J101	CHIP+-5% 100	
L6001	VLPS0090	CHIP	
L6002	VLQ0163J220	CHIP+-5% 22	
L6003	VLQ0163J4R7	CHIP+-5% 4.7	
L6004	VLQ0163J4R7	CHIP+-5% 4.7	
L6005	VLQ0163J4R7	CHIP+-5% 4.7	
L6006	VLQ0163J4R7	CHIP+-5% 4.7	
L6007	VLQ0163J4R7	CHIP+-5% 4.7	
L6601	BK1608HS601T	BEAD INDUCTOR CHIP 600	
L6602	BK1608HS601T	BEAD INDUCTOR CHIP 600	
L6603	BK1608HS601T	BEAD INDUCTOR CHIP 600	
L6604	VLQ0163J4R7	CHIP+-5% 4.7	
L6605	BK1608HS601T	BEAD INDUCTOR CHIP 600	
		CRYSTAL OSCILLATOR	
X2001	LSSX0051		
X2002	LSSX0052		
X2003	LSSX0050		
X6001	LSSX0009		
X6002	LSSX0010		
X6601	LSSX0049		
		PIN HEADERS	
P1902	LSJSPC03F	CONNECTOR 3P	
P1903	LSJSME04E	CONNECTOR 4P	
P1905	LSJSPC13F	CONNECTOR 13P	
P1906	LSJSME03E	CONNECTOR 3P	
P3501	LSJS0090	CONNECTOR 36P	
P3502	LSJS0090	CONNECTOR 36P	
P3503	LSJS0090	CONNECTOR 36P	
P4001	LSJSPC02F	CONNECTOR 2P	
P6001	LSJSME03E	CONNECTOR 3P	
P6002	LSJSME03E	CONNECTOR 3P	
P6004	LSJSME02E	CONNECTOR 2P	
P6005	LSJS0085	CONNECTOR 18P	
		FUSE& PROTECTOR	
PR1902	ICP-S2.3	IC PROTECTOR CHIP 2.3A	⚠
PR1903	ICP-S1.2	IC PROTECTOR CHIP 1.2A	⚠
PR1904	ICP-S1.8	IC PROTECTOR CHIP 1.8A	⚠
PR1905	ICP-S1.8	IC PROTECTOR CHIP 1.8A	⚠

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Ref. No.	Part No.	Part Name& Description	Remarks
		MISCELLANEOUS	
JK3001	LSJJ0130A	D-SUB MINI JACK SOCKET	
JK3002	LSJJ0130A	D-SUB MINI JACK SOCKET	
JK4001	LSJJ0131	STEREO MINI JACK SOCKET	
JK4002	LSJJ0132	STEREO MINI JACK SOCKET	
JK5001	LSJJ0133	S-JACK SOCKET	
JK5002	LSJJ0166	RCA PIN JACK SOCKET	
JK6001	LSJJ0128	MOUSE JACK SOCKET	
JK6002	LSJJ0129	RS-232C JACK SOCKET	
JK6601	LSJJ0159	USB JACK SOCKET	
		MISCELLANEOUS	
E71	LSKF0312	JACK COVER	
E72	LSMA0330	JACK PLATE,STEEL	
E73	GP1U292Q	INFRARED RECEIVER UNIT	
E79	XSB3+8FZ	SCREW,STEEL	
E80	XTB3+8GFZ	TAPPING SCREW,STEEL	
E82	LSMX0063	SPACER	
E83	VMFS0321	SHEET,NYLON-RAYON	
E84	LSMT0043	CUSHION,POLYURETHANE-NYLON	
E85	VMFS0138	SHEET,NYLON-RAYON	
E87	LSHD0062	SCREW,STEEL	
		POWER ASS'Y	■
		SWITCHES	
SW1141	AGX205	INTER LOCK SWITCH	⚠
		PRINTED CIRCUIT BOARD ASSEMBLY	
E5	LSEB1049A1	FILTER C.B.A. NR	▲
		MISCELLANEOUS	
E3	LSEP1046A1	MAIN POWER C.B.A. NR	
E4	LSEP1048A1	LINE-FILTER C.B.A. NR	
E7	LSEP1047A1	SYSTEM POWER C.B.A. NR	
E31	KGLS-5RF	RIVET,NYLON	
E32	KGPS-5RF	SPACER	
E33	LSMA0435	BALLAST CASE A,STEEL	⚠
E35	LSMZ0248	BALLAST BARRIER A1	⚠
E36	LSMZ0262	BALLAST BARRIER A2	⚠
E37	LSMZ0250	BALLAST BARRIER A3	⚠
E38	XTN3+4F	TAPPING SCREW,STEEL	
E39	XTV3+20J	TAPPING SCREW 3X20	
E40	XYE3+FF6	SCREW W/WASHER,STEEL	
E41	LSQL0904	CAUTION LABEL	

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Ref. No.	Part No.	Part Name& Description	Remarks
E44	LSMP0195	BALLAST PIECE	
E45	LSMZ0221	BALLAST BARRIER A4	⚠
E52	VZFS0006	CLAMPER	
E57	LSMZ0263	BALLAST BARRIER A5	⚠
E82	LSMX0063	SPACER	
E90	LSEE0004	TEMPERATURE FUSE UNIT	
		FILTER C.B.A. NR	▲
		PIN HEADERS	
P1101	LSJS0088	INLET	⚠
		SWITCHES	
SW1101	LSSW0013-1	MAIN	⚠
		FUSE& PROTECTOR	
F1101	LSSF0013B63T		⚠
F1102	LSSF0013B63T		⚠
		MISCELLANEOUS	
E14	FBA06T24HP	POWER FAN	⚠
E34	LSMA0420	BALLAST CASE B,STEEL	
E39	XTV3+20J	TAPPING SCREW 3X20	
E40	XYE3+FF6	SCREW W/WASHER,STEEL	
E46	LSMZ0206	BALLAST BARRIER B1	⚠
E47	LSMZ0207	BALLAST BARRIER B2	⚠
E48	LSMZ0222	BALLAST BARRIER B3	⚠
E49	LSMZ0251	BALLAST BARRIER B4	⚠
E53	LSMX0066	RIVET,NYLON	
E58	LSMZ0264	BALLAST BARRIER B5	⚠
E60	KGLS-6RF	LOCKING CARD SPACER	
E65	XYN4+C6FN	SCREW W/WASHER,STEEL	
		INFRARED SENSOR FRONT C.B.A.	■
		CAPACITORS	
C6801	ECEA0JKA470	ELECTROLYTIC 6.3V 47	
		PIN HEADERS	
P6801	LSJA0233	CONNECTOR CORD W/PLUG,DC 5V	
		MISCELLANEOUS	

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Ref. No.	Part No.	Part Name& Description	Remarks
E26	PNA4611M00XD	INFRARED RECEIVER UNIT	
		THERMISTOR C.B.A.	■
		RESISTORS	
R6402	VRTS0013	THERMISTOR	⚠
		PIN HEADERS	
P6402	LSJA0232	CONNECTOR CORD W/PLUG,DC 5V	
		ELECTRICAL PARTS LOCATED ON CHASSIS	
E15	LSJA0235	FILTER SW UNIT,DC 5V	
E17	LSJA0234	SPEAKER CORD W/PLUG,12VPP	
E18	FBL09A12HS	LAMP FAN-1	⚠
E19	LSJA0315	FAN CORD W/PLUG,DC 13.5V	
E21	LSRF0006	DUCT FAN	⚠
E22	FAL3F12LLSA	LAMP FAN	⚠
		SUMMARY OF "E" ITEM NUMBERS	
		REFER TO ELECTRICAL PARTS LIST FOR MODEL INFORMATION	
E1	LSEP3021A1	MAIN C.B.A.	RTL
E1	LSEP3021C1	MAIN C.B.A.	RTL
E2	LSEB1046A1	POWER ASS'Y	RTL
E3	LSEP1046A1	MAIN POWER C.B.A. NR	
E4	LSEP1048A1	LINE-FILTER C.B.A. NR	
E5	LSEB1049A1	FILTER C.B.A. NR	
E7	LSEP1047A1	SYSTEM POWER C.B.A. NR	
E11	LSEP0A10A1	INFRARED SENSOR FRONT C.B.A.	RTL
E13	LSEP0A11A1	THERMISTOR C.B.A.	RTL
E14	FBA06T24HP	POWER FAN	⚠
E15	LSJA0235	FILTER SW UNIT,DC 5V	
E17	LSJA0234	SPEAKER CORD W/PLUG,12VPP	
E18	FBL09A12HS	LAMP FAN-1	⚠
E19	LSJA0315	FAN CORD W/PLUG,DC 13.5V	
E21	LSRF0006	DUCT FAN	⚠
E22	FAL3F12LLSA	LAMP FAN	⚠
E26	PNA4611M00XD	INFRARED RECEIVER UNIT	
E31	KGLS-5RF	RIVET,NYLON	
E32	KGPS-5RF	SPACER	
E33	LSMA0435	BALLAST CASE A,STEEL	⚠
E34	LSMA0420	BALLAST CASE B,STEEL	
E35	LSMZ0248	BALLAST BARRIER A1	⚠
E36	LSMZ0262	BALLAST BARRIER A2	⚠

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Ref. No.	Part No.	Part Name& Description	Remarks
E37	LSMZ0250	BALLAST BARRIER A3	⚠
E38	XTN3+4F	TAPPING SCREW,STEEL	
E39	XTV3+20J	TAPPING SCREW 3X20	
E40	XYE3+FF6	SCREW W/WASHER,STEEL	
E41	LSQL0904	CAUTION LABEL	
E44	LSMP0195	BALLAST PIECE	
E45	LSMZ0221	BALLAST BARRIER A4	⚠
E46	LSMZ0206	BALLAST BARRIER B1	⚠
E47	LSMZ0207	BALLAST BARRIER B2	⚠
E48	LSMZ0222	BALLAST BARRIER B3	⚠
E49	LSMZ0251	BALLAST BARRIER B4	⚠
E52	VZFS0006	CLAMPER	
E53	LSMX0066	RIVET,NYLON	
E57	LSMZ0263	BALLAST BARRIER A5	⚠
E58	LSMZ0264	BALLAST BARRIER B5	⚠
E60	KGLS-6RF	LOCKING CARD SPACER	
E65	XYN4+C6FN	SCREW W/WASHER,STEEL	
E71	LSKF0312	JACK COVER	
E72	LSMA0330	JACK PLATE,STEEL	
E73	GP1U292Q	INFRARED RECEIVER UNIT	
E79	XSB3+8FZ	SCREW,STEEL	
E80	XTB3+8GFZ	TAPPING SCREW,STEEL	
E82	LSMX0063	SPACER	
E83	VMFS0321	SHEET,NYLON-RAYON	
E84	LSMT0043	CUSHION,POLYURETHANE-NYLON	
E85	VMFS0138	SHEET,NYLON-RAYON	
E87	LSHD0062	SCREW,STEEL	
E90	LSEE0004	TEMPERATURE FUSE UNIT	

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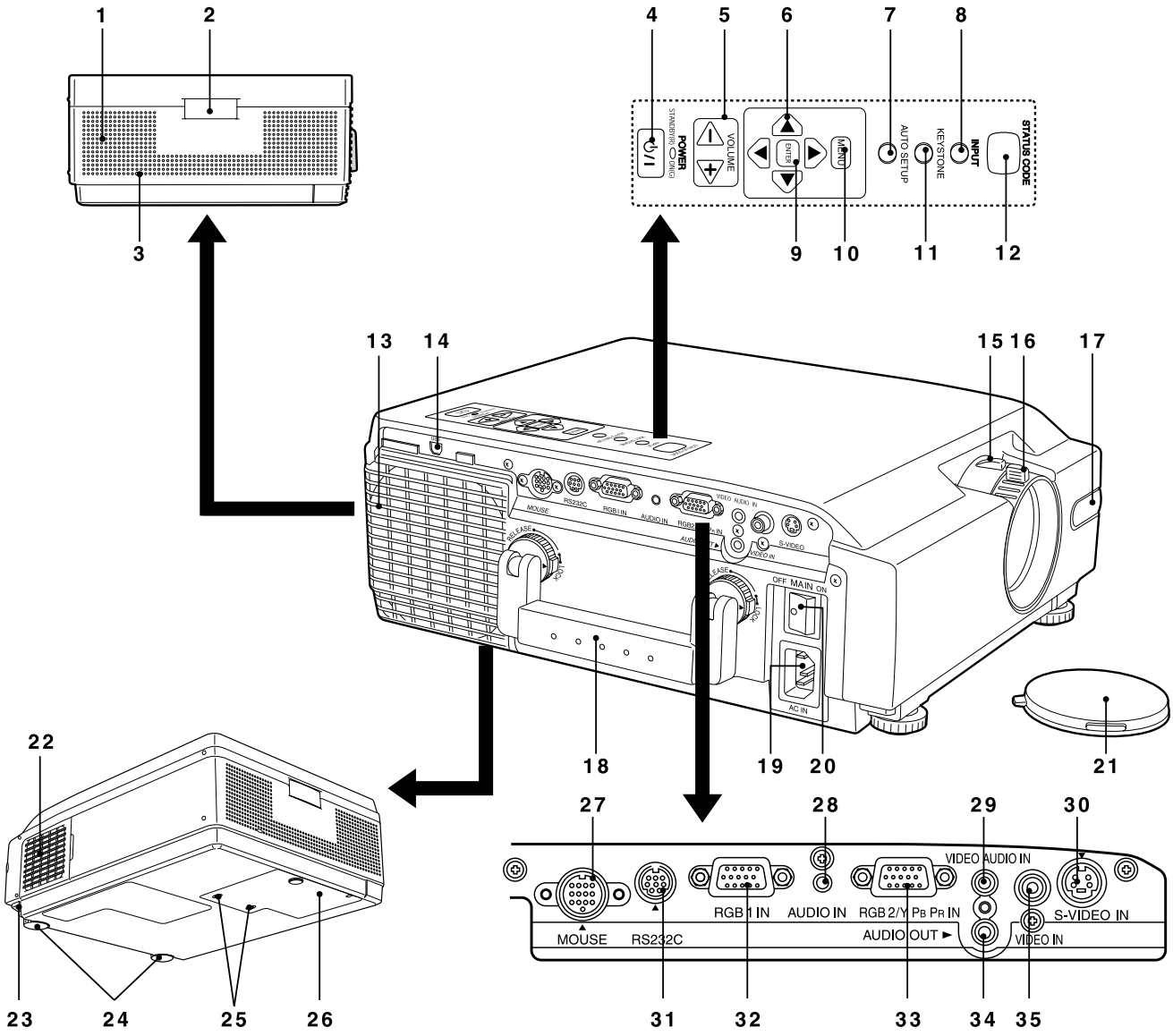
Product Information

LCD Projector

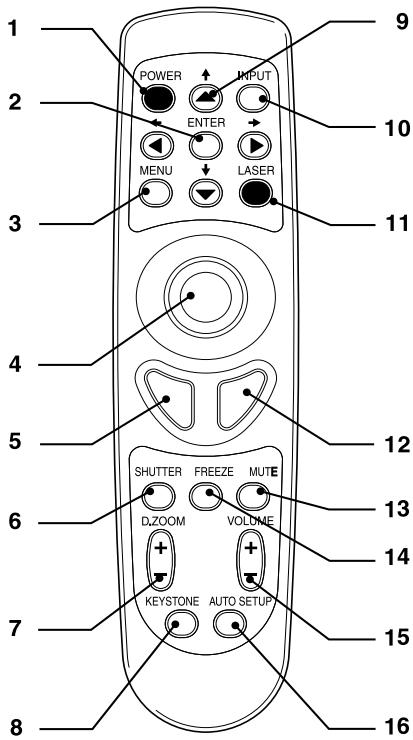


1 **Speaker**
2 **Remote Control Sensor** ..... See page 11.
3 **Security Lock**
4 **POWER Button/ POWER Indicator STANDBY(R) ON(G)** See page 14.
5 **VOLUME+/- Buttons** ..... See page 18.
6 **Adjust ▲▼◀▶ Buttons** ..... See pages 19, 22.
7 **AUTO SETUP Button** ..... See page 32.
8 **INPUT Button** ..... See page 17.
9 **ENTER Button** ..... See page 19.
10 **MENU Button** ..... See page 19.
11 **KEYSTONE Button** ..... See page 25.
12 **STATUS CODE** ..... See page 48.
13 **Air outlet port**
14 **USB connector** ..... See page 46.
15 **Zoom Ring** ..... See page 16.
16 **FOCUS Ring** ..... See page 16.
17 **Remote Control Sensor** ..... See page 11.
18 **Carrying Handle** ..... See page 47.
19 **AC Socket (100 V - 240 V)** ..... See page 14.
20 **Main Power Switch** ..... See page 14.
21 **Lens Cap**
22 **Air Filter** ..... See page 49.
23 **Adjuster Button** ..... See page 15.
24 **Adjustable legs** ..... See page 15.
25 **Lamp Cover Screws** ..... See pages 51, 52.
26 **Lamp Cover** ..... See pages 51, 52.
27 **MOUSE Connector** ..... See page 46.
28 **RGB Audio Input Connector** ..... See pages 41, 42.
29 **Video Audio Input Connector** ..... See page 40.
30 **S-Video Input Connector** ..... See page 40.
31 **RS232C Connector** ..... See page 44.
32 **RGB1 Input Connector** ..... See page 41.
33 **RGB2/YPBPR Input Connector** ... See pages 41, 42.
34 **Audio Output Connector** ..... See pages 40-42.
35 **Video Input Connector** ..... See page 40.

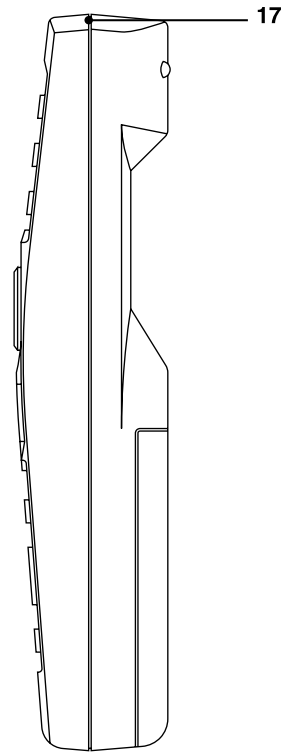
Product Information

Remote Control unit

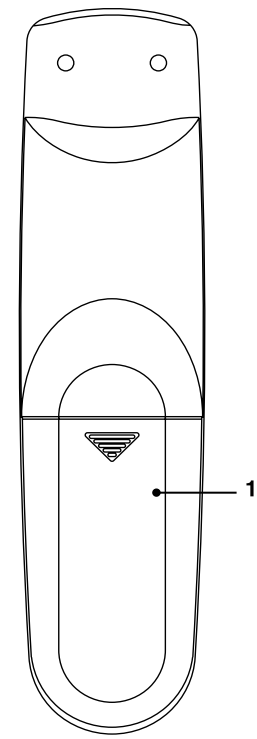
[Front]



[Side]



[Back]



1	**POWER Button**	See page 14.
2	**ENTER Button**	See page 19.
3	**MENU Button**	See page 19.
4	**Mouse Button**	See page 46.
5	**Click 1 Button**	See page 46.
6	**SHUTTER Button**	See page 18.
7	**D.ZOOM +/- Buttons**	See page 38.
8	**KEYSTONE Button**	See page 25.
9	**Adjust ▲▼◀▶ Buttons**	See pages 19, 22.
10	**INPUT Button**	See page 17.
11	**LASER Button**	See page 10.
12	**Click 2 Button**	See page 46.
13	**MUTE Button**	See page 18.
14	**FREEZE Button**	See page 18.
15	**VOLUME +/- Buttons**	See page 18.
16	**AUTO SETUP Button**	See page 32.
17	**Transmitter**	See page 11.
18	**Battery compartment**	See page 10.

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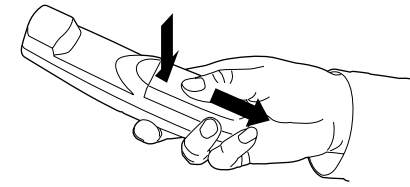
Fax : (650)572-9675

Before using the Remote Control

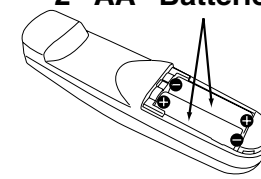
■ Load the 2 “AA” batteries in the Remote Control

1 Slide the lid in the direction of the arrow.



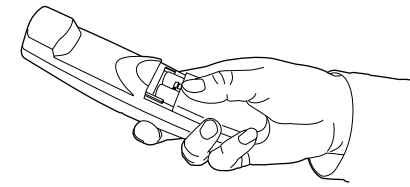
2 Install 2 “AA” batteries as indicated inside the Battery Compartment.

2 “AA” Batteries (included)



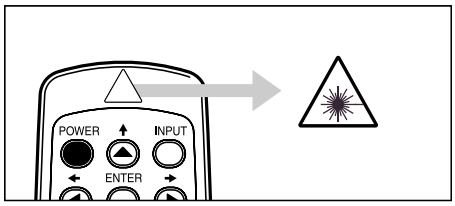
Battery replacement caution
- Do not mix old and new batteries.
  Also never mix alkaline with manganese batteries.

3 Replace the lid and snap into place.

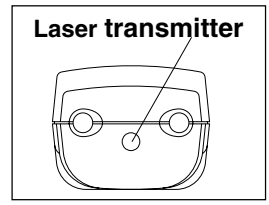


■ Using the Laser Pointer on the Remote Control

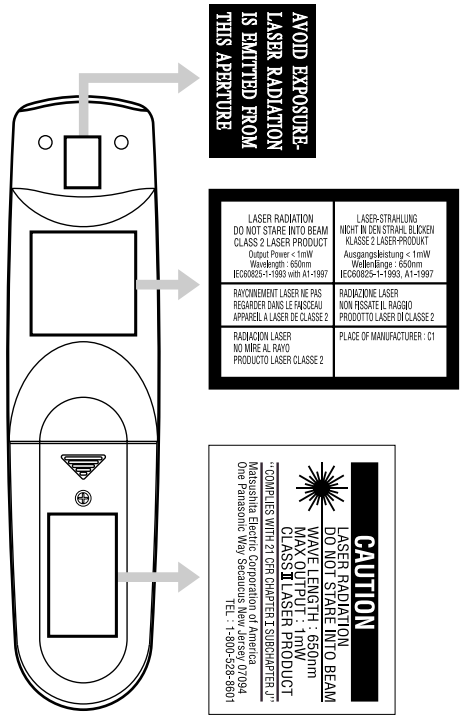
When the Laser beam is aimed at the screen, the Pointer is displayed on the screen.



Laser transmitter



Press and hold LASER on the remote control to activate Laser.



Warning DO NOT look into the Laser transmitter, or aim the Laser beam at a person. Shining the Laser beam into the eyes could result in eye damage.

Note
- This product has the following laser radiation specifications:
  Wavelength - 650 nm, Max. Output - 1 mW, Class Ⅱ (Class 2.)

For U.S.A. only
- Class Ⅱ laser products are normally required to be equipped with an indicator indicating that the laser beam is being emitted. On this product, the red beam emitted from the laser point functions as this indicator.
- Class Ⅱ laser products are normally required to be equipped with an emergency stop device such as a shutter to stop the laser immediately. On this product, instead of such a device, the laser does not stay on unless the laser button is held in continuously.

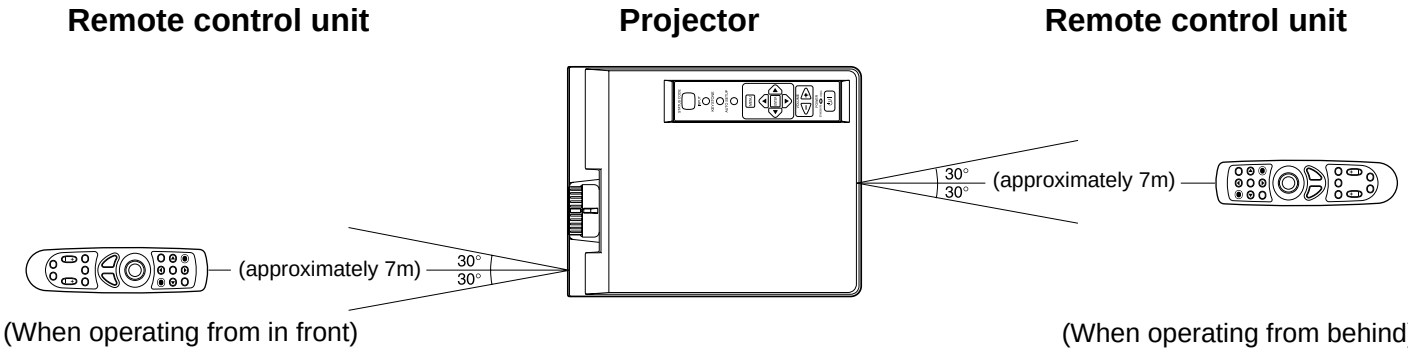
CAUTION: Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Before using the Remote Control

■ Operating range of the remote control unit

Point the remote control unit toward the remote control signal receptor on the front or the rear of the Projector to operate the Projector. Refer to the illustration below for the operating range of the remote control unit.

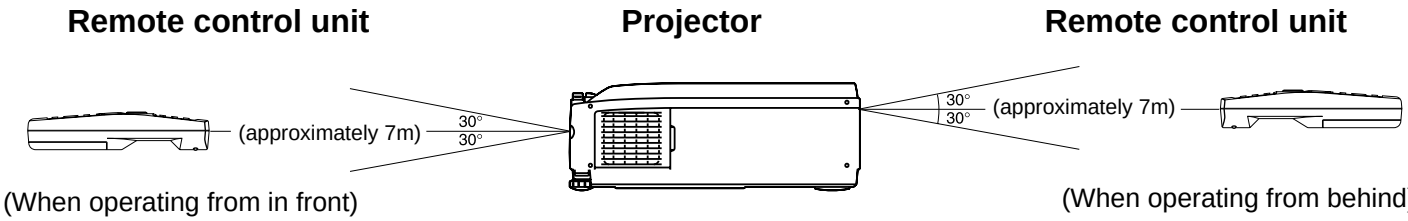
<Top view>



(When operating from in front)

(When operating from behind)

<Side view>



(When operating from in front)

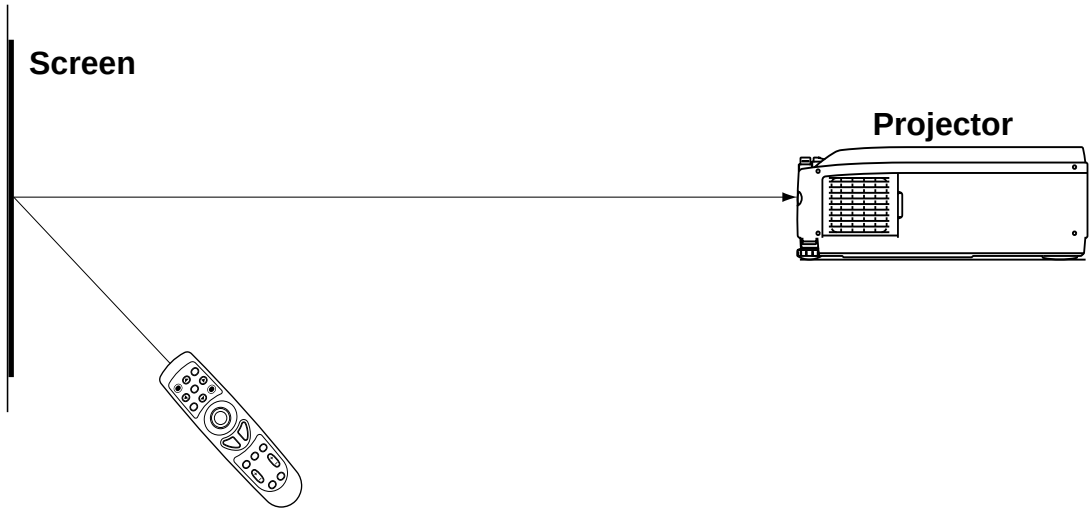
(When operating from behind)

Note

- The operating distance is within 7 m (approximately 23.0 ft) from directly in front of the front or rear remote control signal receptors.
- If strong light is allowed to shine onto the remote control signal receptor, or if there are any obstacles between the remote control signal receptor and the remote control unit, correct remote control operation may not be possible.

■ If facing the remote control unit toward the screen

The Projector can also be operated by pointing the remote control unit toward the screen as shown in the illustration below.

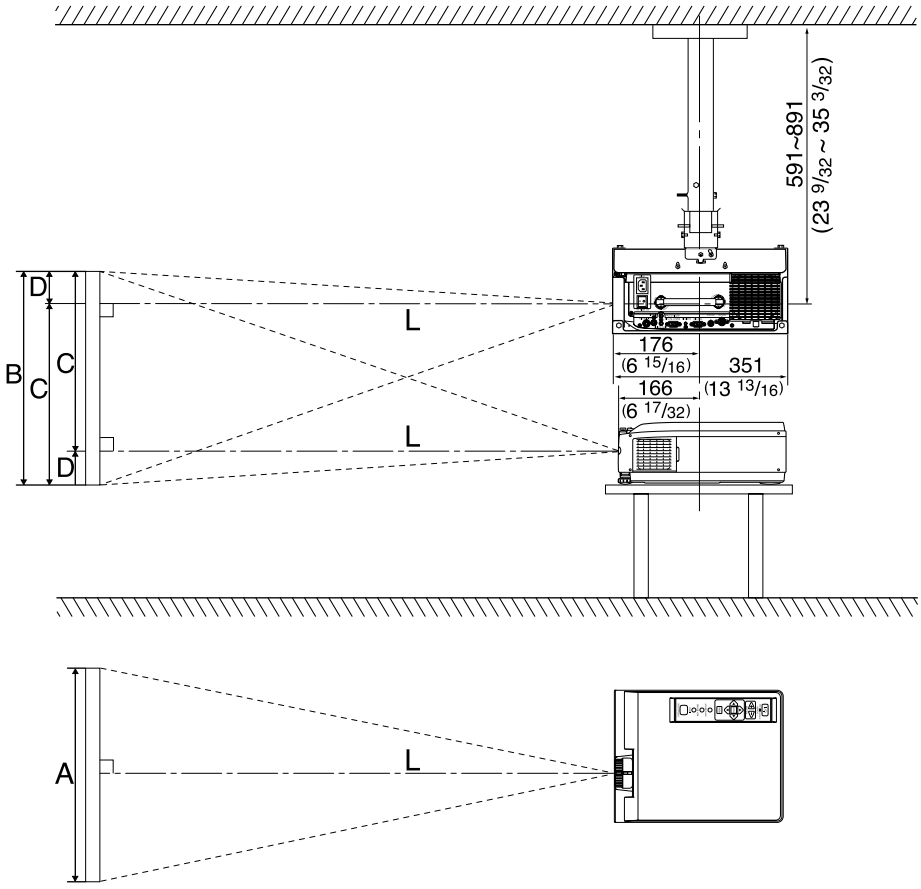


Note

If facing the remote control unit toward the screen to operate the projector, the operating range of the remote control unit will be limited by the amount of light reflection loss caused by the characteristics of the screen used.

Standard Setting-up Positions

The screen should be positioned so that it is not directly touched by sunlight or room light as this will wash out the colors of the picture making it hard to see. When possible, close all blinds, curtains, etc. and dim the lights. Also, the LCD Projector should be at a 90° angle to the screen for the best picture results. To determine the distance for the desired size, please refer to the LCD Projector/Screen Relationship Chart below.
(By using the digital variable compression feature, you can increase the throw distance. See page 24.)



When installed using the ET-PK057 ceiling mount bracket (sold separately).

Unit : mm (inch)

- Your LCD Projector is equipped with an image reverse feature. (See page 22.)

LCD Projector /Screen Relative Position Chart

The picture can be adjusted to the desired size within the range of the zoom lens.
(This chart is based on a compression ratio of 1 time.) The values in the table are reference values.

Screen size	Throw distance (L)	Measure (A)	Measure (B)	Measure (C)	Measure (D)
20 inches	0.85 m (2.79 ft)	0.41 m (1.33 ft)	0.31 m (1.00 ft)	0.26 m (0.86 ft)	4 cm (1.7 in.)
40 inches	1.33 m - 1.75 m (4.36 ft - 5.74 ft)	0.81 m (2.67 ft)	0.61 m (2.00 ft)	0.52 m (1.71 ft)	9 cm (3.4 in.)
60 inches	2.00 m - 2.65 m (6.66 ft - 8.69 ft)	1.22 m (4.00 ft)	0.91 m (3.00 ft)	0.78 m (2.57 ft)	13 cm (5.1 in.)
80 inches	2.73 m - 3.55 m (8.96 ft - 11.65 ft)	1.63 m (5.33 ft)	1.22 m (4.00 ft)	1.05 m (3.43 ft)	17 cm (6.9 in.)
100 inches	3.43 m - 4.45 m (11.25 ft-14.60 ft)	2.03 m (6.67 ft)	1.52 m (5.00 ft)	1.31 m (4.29 ft)	22 cm (8.6 in.)
120 inches	4.13 m - 5.35 m (13.55 ft-17.55 ft)	2.44 m (8.00 ft)	1.83 m (6.00 ft)	1.57 m (5.14 ft)	26 cm (10.3 in.)
150 inches	5.18 m - 6.70 m (16.99 ft-21.98 ft)	3.05 m (10.00 ft)	2.29 m (7.50 ft)	1.96 m (6.43 ft)	33 cm (12.9 in.)
200 inches	6.93 m - 8.85 m (22.74 ft-29.36 ft)	4.06 m (13.33 ft)	3.05 m (10.00 ft)	2.61 m (8.57 ft)	44 cm (17.1 in.)
250 inches	8.68 m - 11.20 m (28.48 ft-36.75 ft)	5.08 m (16.67 ft)	3.81 m (12.50 ft)	3.27 m (10.71 ft)	54 cm (21.4 in.)
300 inches	10.43 m - 13.45 m (34.22 ft-44 13 ft)	6.10 m (20.00 ft)	4.57 m (15.00 ft)	3.92 m (12.86 ft)	65 cm (25.7 in.)

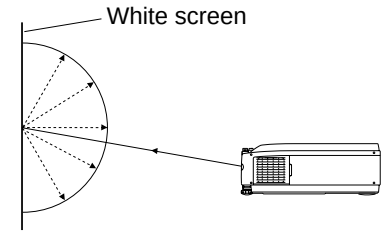
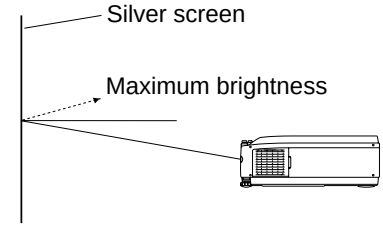
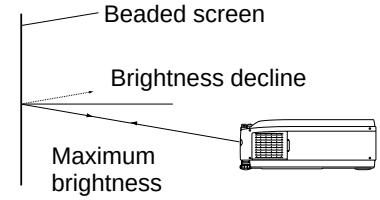
- If the LCD Projector and the screen are not properly placed, the picture will be distorted producing a keystoned image as shown at right.

Keystoned Image

Screen Requirements

This Projector is used to project the image onto flat screens. However, the brightness and viewable range will vary depending on which type of screen is used.
When selecting a screen, check the characteristics of the screen to ensure that it is suitable for the intended place of use.

■ Screen characteristics (reference)

Screen type		Screen characteristics
Reflective screens	**White screen**	This type of screen can be seen from anywhere, so there are no limits on the viewing position. However, the surrounding walls should be darkened as in a movie theater, otherwise a clear picture cannot be obtained. 
	Silver screen	This type of screen gives a picture which is 2-4 times brighter than a white screen. A variety of types are available from different manufacturers, and each type has different brightness characteristics. Some also have restrictions on the possible range of viewing positions. * Care should be taken with screens that have a high gain, as these types of screen can cause color distortion at the left and right edges. * This type of screen is recommended when the Projector is suspended from the ceiling. 
	Beaded screen	This type of screen is similar to the silver screen, except that no color distortion occurs at the left and right edges. Moreover, most of the light is reflected at the same angle as the angle of incidence. * This type of screen is recommended when the Projector is placed on the floor. 
Translucent screens	**Flexible translucent screen**	This type of screen is made of PVC (polyvinyl chloride). It has the same characteristics as silver screens, but sometimes it can have hot spots.
	Rigid-type translucent screen	This type of screen is made of acrylic plastic. It is extremely durable and has excellent optical characteristics. It performs in the same way as silver screens.

Note

- A Polarized screen can not be use for this LCD Projector, because its polarizing effect will add to the polarization already designed into the Projector (to increase its efficiency). The resulting image will not appear in its true color.

Turning the power on and off

If the MAIN POWER switch on the LCD Projector is turned off while the cooling fan is still operating, the operating life of the projector lamp will be shortened. Be sure to follow the procedures given below when turning the LCD Projector power supply on and off.

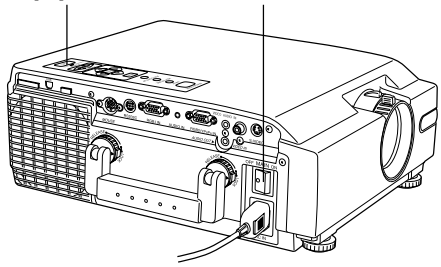
Note

Insert Power Cord into LCD Projector AC socket and connect to properly grounded wall outlet.

POWER Button/ POWER Indicator STANDBY(R) ON(G)

(LCD Projector)

MAIN POWER Switch

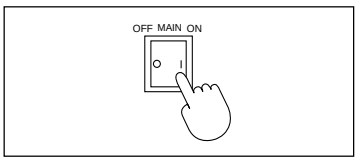


(Remote Control unit)

POWER Button

• Turning on the power

1



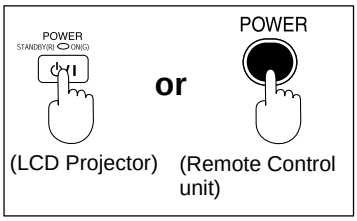
Press the MAIN POWER switch

Press the MAIN POWER switch on the LCD Projector to ON.

↓

The power indicator will illuminate red and the Projector will switch to standby mode.

2



Press the POWER button

Press POWER button on the LCD Projector or remote control.

↓

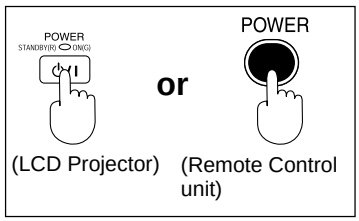
The power indicator will illuminate solid green and a picture will be projected onto the screen.

Note

The LCD Projector cannot be turned on for 60 seconds after turning it off.

• Turning off the power

1



Press the POWER button

Press POWER button on the LCD Projector or remote control. "Please press POWER button again to power off" is displayed on the screen, and then press POWER button again.

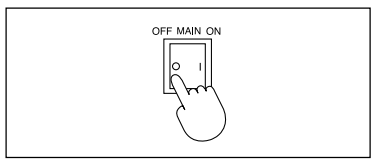
↓

The power indicator will illuminate flashing red and the Projector will switch to standby mode.

2 Wait for the cooling fan to stop.

Wait for a while (approximately 60 seconds) until the cooling fan stops. (When the fan stops, the power indicator will illuminate solid red.)

3



Press the MAIN POWER switch

Press the MAIN POWER switch on the LCD Projector to OFF.

↓

The power indicator will switch off and the power supply will be turned off.

Note

- If the power is turned off using the POWER button, the cooling fan will continue to operate (for approximately 60 seconds) while the inside of the Projector is still at a high temperature. Do not turn the MAIN POWER switch to the OFF position, disconnect the power cord plug from the wall socket or shut off the mains power supply until the cooling fan stops operating.
- If the MAIN POWER switch has not been turned off, the Projector will still draw approximately 20 W of power, even when the POWER button has been turned off and the fan has stopped.

Adjusting the LCD Projector projection angle

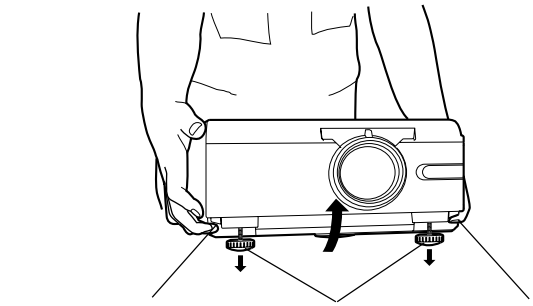
Adjusting the LCD Projection angle of the LCD Projector. When the projector is in the horizontal position, keystone correction is unnecessary and a correct image can be viewed.

• Adjustment procedure

1 Lift the front of the LCD Projector to the desired angle. While holding it in place, press the 2 adjuster buttons located under the right and left sides of the projector. When the buttons are pressed, the left and right adjustable legs will drop down until they reach the setting-up surface.

Note

• Do not release the buttons until both legs have reached the setting-up surface.

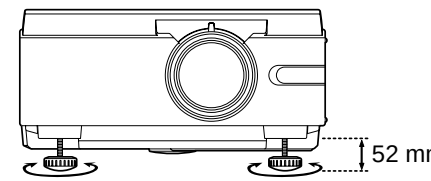


2 Release the adjuster buttons. (The adjustable legs will lock as soon as the buttons are released.)

3 Turn the adjustable legs by hand in either direction to make fine adjustments.

Note

• The legs can be extended by up to 52 mm. If you try to extend them any further than this, they will merely spin freely.

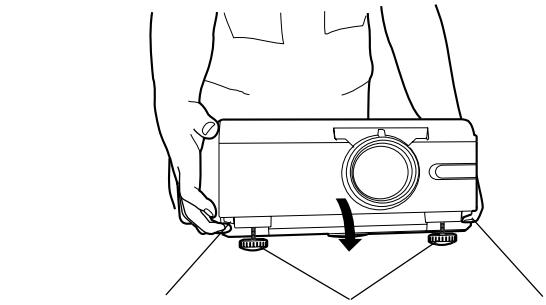


■ Retracting the adjustable legs

After lifting the front of the Projector slightly, press and hold the adjuster buttons and then gently lower the Projector.

Note

• Be sure to support the Projector firmly while pressing the adjuster buttons. If the adjuster buttons are pressed without supporting the Projector, the adjustable legs will suddenly unlock and the Projector will fall down, which could catch your fingers and damage the Projector.

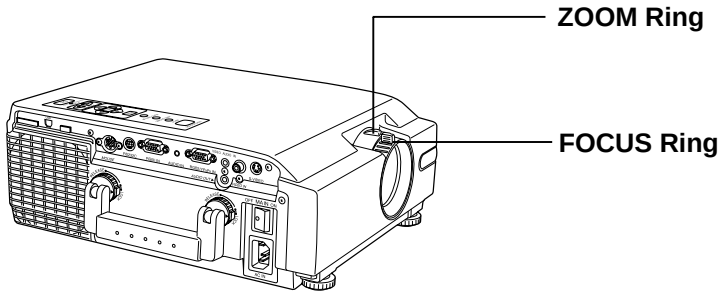


Caution: When you set up the LCD Projector

• Do not place it in humid or dusty places, or places where the air is sooty or full of cigarette smoke. If the lens, mirror, or other optical components become dirty, the picture will blur or darken, making viewing difficult.
• Do not expose to extreme heat or cold. Operating temperature: 5 °C – 40 °C (41 °F – 104 °F)

Adjusting the Lens

If the LCD Projector is not set up so that it is horizontal, it will not be possible to obtain a distortion-free picture. Turn the adjusters in either direction to make fine adjustments to the level of the Projector so that the Projector is perfectly horizontal.



- **Adjustment procedure**

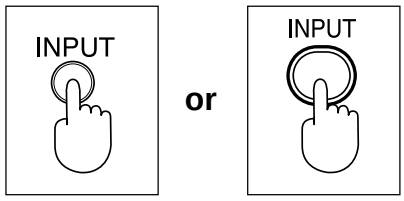
1 Turn the ZOOM Ring to adjust the size of the picture.
- When facing the rear of the projector, turn the ring to the right for a larger picture, or to the left for a smaller picture.

2 Turn the FOCUS Ring to adjust the focus of the picture.
- Turn the ring to the right or left until the picture is at the optimum focus.

3 Turn the ZOOM Ring again to adjust the size of the picture.
- When you turn the FOCUS Ring, the size of the picture changes.

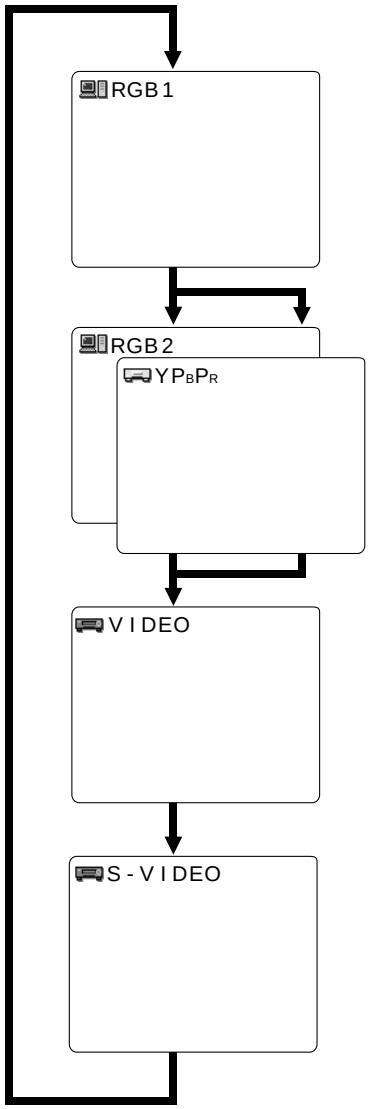
Changing the input signal

(LCD Projector) **(Remote Control unit)**



Press the INPUT button

The input source for picture signals and the corresponding audio signals can be changed by pressing the INPUT buttons on the Projector operating panel or on the remote control.



The signal from the source which is connected to the RGB1 connector is projected.
This terminal accepts input of RGB input signals from a personal computer and DTV Format signals (RGB) from a DVD or a digital broadcast.

The signal from the source which is connected to the RGB2/YPBPR connector is projected.
This terminal accepts input of RGB input signals from a personal computer and DTV Format signals (RGB, YPBPR) from a DVD or a digital broadcast. No monitor or Projector can automatically decide whether a Component signal is the RGB-type or the YPBPR-type. So, you will have to select either RGB or YPBPR manually.

The signal from the source which is connected to the VIDEO IN connector is projected.

The signal from the source which is connected to the S-VIDEO IN connector is projected.

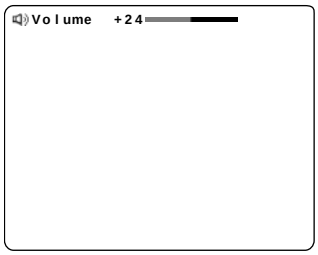
Note

- To turn off the input signal on-screen display, please see “Turning off the input signal display” on page 34.
- There is only one audio system circuit provided for the VIDEO AUDIO IN terminals for S-VIDEO and VIDEO signals. Because of this, if using both S-VIDEO signals and VIDEO signals, it will be necessary to change over the connectors.
- There is only one audio system circuit provided for the AUDIO IN terminals for RGB1, RGB2 and YPBPR signals. Because of this, if using both RGB signals and YPBPR signals, it will be necessary to change over the connectors.
- The LCD Projector is shipped from the factory with the system format selection function set to “AUTO.” If the correct picture is not projected when VIDEO signal is input and it is necessary to change the input to match the input signal, refer to “S-VIDEO/VIDEO Signal Format Selection” on page 28.
- Please refer to page 39 to change the setting if you change the signal input to the RGB2/YPBPR connector.
- When RGB signal is input, please input the registered signals found on page 26.

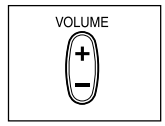
Basic LCD Projector Operation

■ Adjusting the Volume

The volume can be adjusted using the VOLUME +/- buttons on the LCD Projector or remote control.

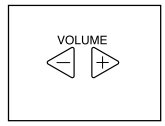


(Remote Control unit)



or

(LCD Projector)



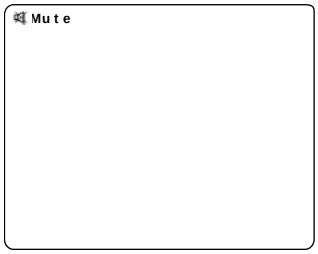
- **Press VOLUME +** button to turn the volume high.
- **Press VOLUME -** button to turn the volume low.

Note

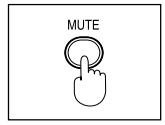
- The “Volume” will remain displayed on the screen for approximately 5 seconds.

■ Turning off the sound

If the MUTE button on the remote control is pressed, “Mute” will be displayed on the screen as shown in the illustration below and the sound will be muted. If the MUTE button is pressed again, the normal sound volume will be restored.



(Remote Control unit)



Note

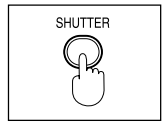
- If the Power supply is turned off or either of the VOLUME +/- buttons is pressed, the mute setting will be canceled.

■ Turning off the Picture and Sound at the same time

When SHUTTER button is pressed on the remote control the picture and sound turns off and the screen goes black, Press SHUTTER button again to resume picture and sound.

Black screen

(Remote Control unit)

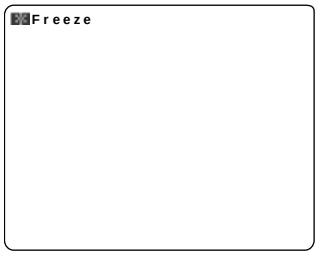


Note

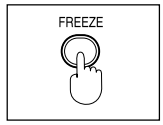
- When the screen goes black, the picture will not be shown on the screen. However, the picture continues to be sent from the Personal Computer or video source.

■ Freezing the picture

Projection can be switched between a frozen (still) picture and a moving picture each time when the FREEZE button on the remote control is pressed. Press FREEZE button again to resume motion.



(Remote Control unit)



Note

- The sound is muted while the picture frozen.

Menu operation guide

This section explains how to reach the desired selection or setting screens from the MENU screen. Refer to the page indicated for further details on each screen item.

1 **Press the MENU button.**
(The Main MENU screen will be displayed.)

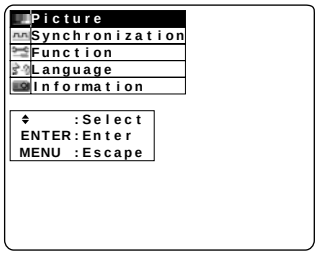
2 **Use the arrow (▲ , ▼) buttons** to select an item, and then **press the ENTER button.**
(The Second MENU screen will be displayed.)

3 **Use the arrow (▲ , ▼) buttons** to select an item, and then **press the ENTER button.**
(The Adjustment MENU screen will be displayed.)

Note

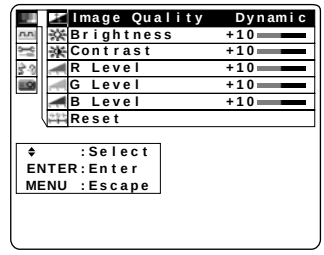
• Press MENU to remove the setup screen and menu.

<Main MENU>

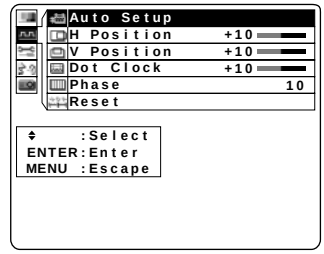


When an RGB signal is being projected.

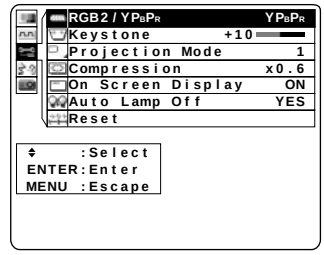
<Second MENU>



Picture
Used to picture adjustments.

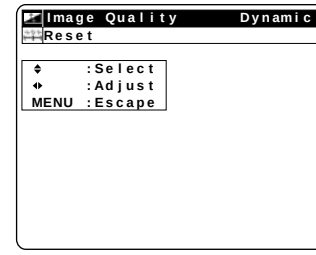


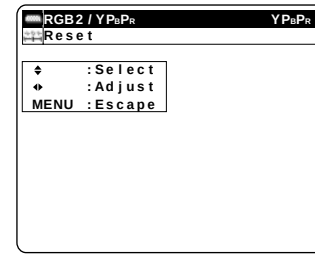
Synchronization
Used to adjust the horizontal and vertical position of the picture and to adjust other properties such as the size.



Function
Used to adjust and change the settings of the various functions available on the projector.

<Adjustment MENU>





Menu operation guide

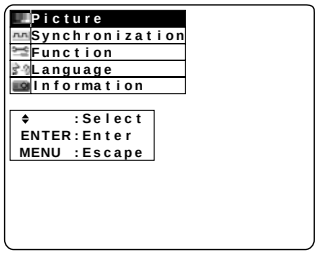
1 Press the MENU button.
(The Main MENU screen will be displayed.)

2 Use the arrow (▲ , ▼) buttons to select an item, and then **press the ENTER button.**
(The Second MENU screen will be displayed.)

Note

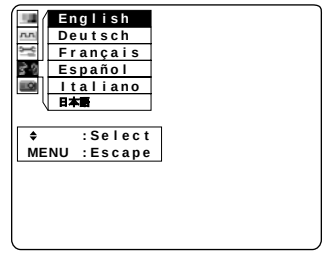
• Press MENU to remove the setup screen and menu.

<Main MENU>

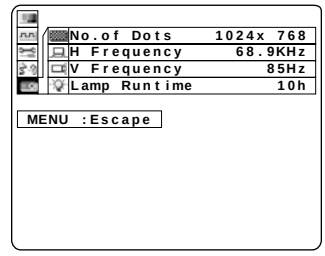


When an RGB signal is being projected.

<Second MENU>

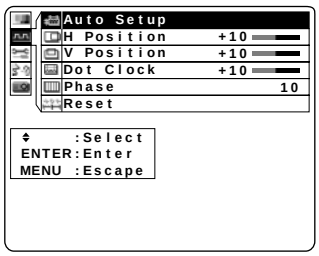


Language
Used to switch the on-screen display language.

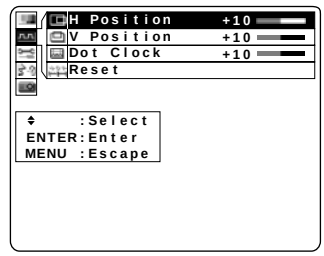


Information
Use to display information about the input signal, lamp run time, etc.

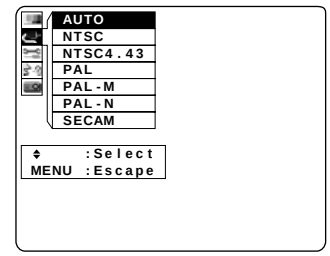
The displayed items on the screen differ according to the input signal.



When an RGB signal is being projected.



When an YPBPR signal is being projected.



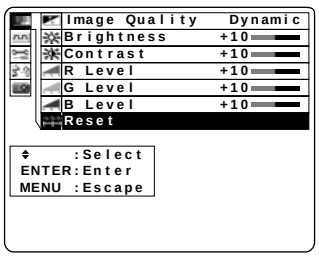
When an Video/S-Video signal is being projected.

Menu operation guide

■ Returning adjustment values to the factory default settings (standard values)

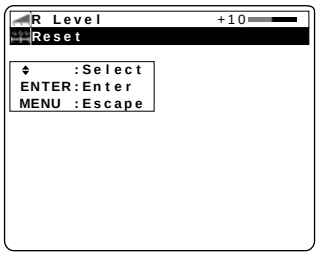
If “Reset” is selected while the “Second MENU” or an “Adjustment MENU” is displayed, the setting can be returned to the factory default setting.

• While the Second Menu screen is being displayed.



All items displayed in the second menu return to the factory settings.

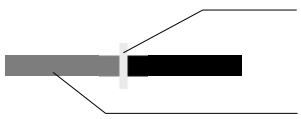
• While an individual adjustment screen is being displayed



Only items selected in the second menu return to the factory settings.

Bar Scale display

The bar scale mark indicates the factory standard value. The mark is only displayed when a factory standard value was assigned.



This bar shows the factory standard value.

This bar shows the current value adjustment.

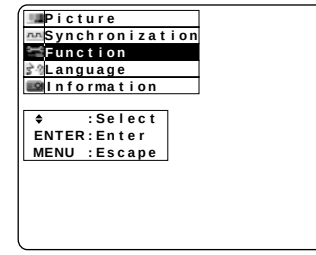
Setting-up Positions and Changing the Projection Mode

The projection mode used by the Projector can be changed in accordance with the setting-up position. Including ceiling mounting, you may select from four direction types. At the time of shipment from the factory, the Projector is set to the No.1 “DESK/FRONT” projection mode, but this can be changed if required.
The procedure and on-screen display as shown below are based on RGB as the input signal from a personal computer. (See page 17)

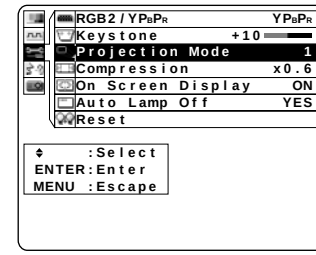
• Setting procedure

1 **Press MENU** to display the menu.

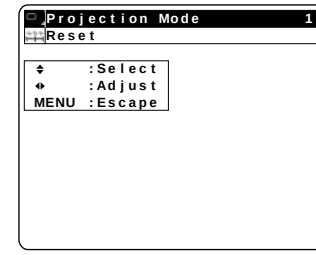
2 **Press ▲ or ▼** to select “Function”, **and then ENTER** to display the screen.



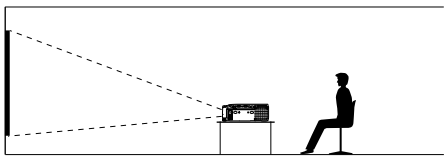
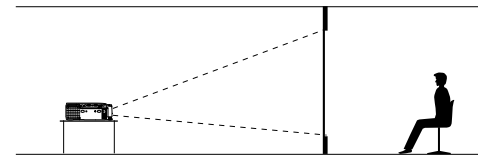
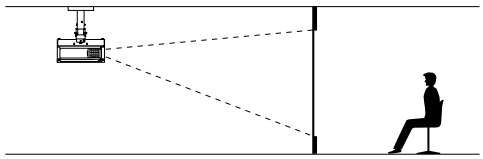
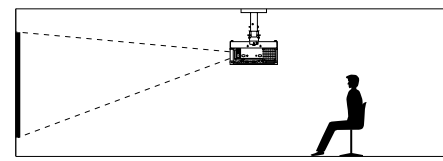
3 **Press ▲ or ▼** to select “Projection Mode”, **and then ENTER** to display the screen.



4 **Press ◄ or ►** to select projecting mode from 1 to 4.
- Select 1 ..... DESK/FRONT (Factory setting)
- Select 2 ..... DESK/REAR (Right and Left displays in reverse)
- Select 3 ..... CEILING/REAR (Up and Down displays in reverse)
- Select 4 ..... CEILING/FRONT (Up and Down/Right and Left reverse display)



Note
- Press MENU to remove the setup screen and menu.
- When reset is selected, adjustment values return to their factory default settings.

Select 1 ..... DESK/FRONT	**Select 2 ..... DESK/REAR**
 (Factory setting)	 (Right and Left displays in reverse)
Select 3 ..... CEILING/REAR	**Select 4 ..... CEILING/FRONT**
 (Up and Down displays in reverse)	 (Up and Down/Right and Left reverse display)

Note
- If the lettering on the screen is projected backwards or upside down, it is because the wrong mode has been selected.

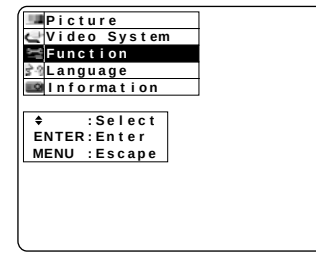
Setting the Screen Type

This LCD Projector is compatible with wide screen (16:9 ratio). If a wide screen is used and you set the screen type to 16:9 in order to project a wide (16:9) picture to fill the entire screen, pictures are correctly projected within the screen when projecting older (normal) 4:3 ratio pictures.
Please follow the instructions below to set the screen type.
The procedure and on-screen display as below are based on S-Video/Video as the input signal. (See page 17.)

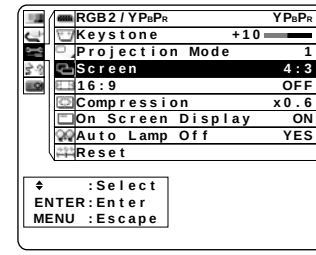
• Setting procedure

1 Press MENU to display the menu.

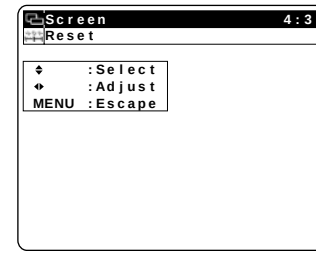
2 Press ▲ or ▼ to select "Function", **and then ENTER** to display the screen.



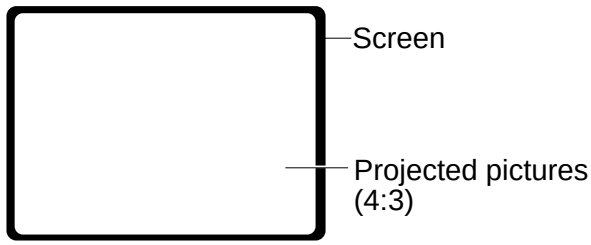
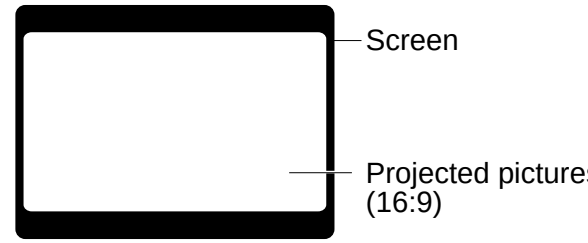
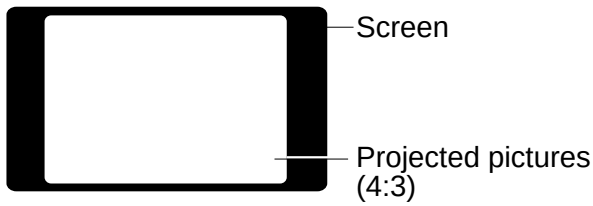
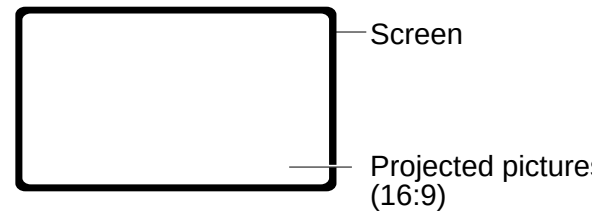
3 Press ▲ or ▼ to select "Screen", **and then ENTER** to display the screen.



4 Press ◄ or ► to change the screen type.
• The 4:3 type screen is set at the factory.



Note
• Press MENU to remove the setup screen and menu.
• When reset is selected, adjustment values return to their factory default settings.

	16:9 (Wide) Function OFF	16:9 (Wide) Function ON
4:3 Type Screen		
16:9 Type Screen		

Note
• Please refer to "Changing to 16:9 (wide) screen format" on page 35 if you change to the 16:9 (wide) screen and project pictures.

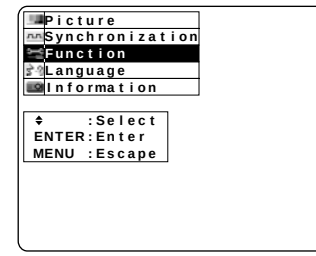
Digital Variable Compression

The projected size of the input image can be reduced to the level you select. With this feature, you can match the input resolution. When projecting a signal within 1 024 X 768, you can reduce the image and adjust it to the original image quality. This will allow you to increase the throw distance.
The procedure and on-screen display as shown below are based on RGB as the input signal from a personal computer. (See page 17.)

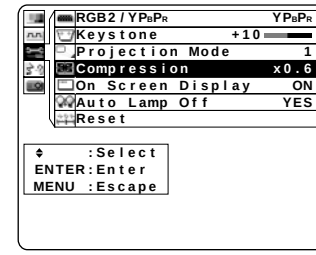
• Adjustment procedure

1 **Press MENU** to display the menu.

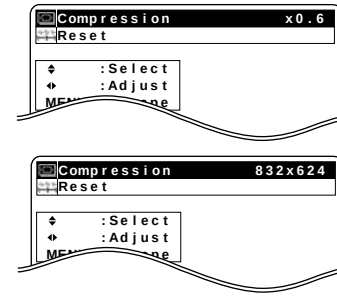
2 **Press ▲ or ▼** to select "Function", **and then ENTER** to display the screen.



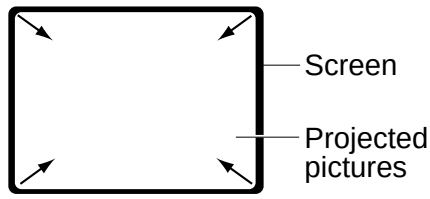
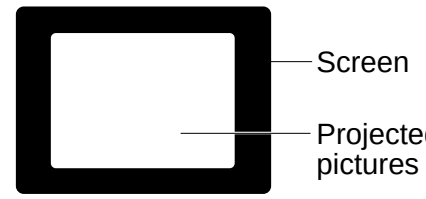
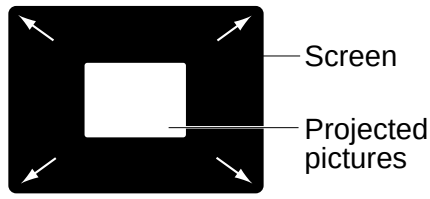
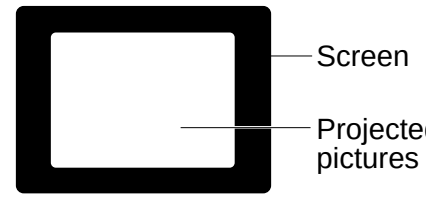
3 **Press ▲ or ▼** to select "Compression", **and then ENTER** to display the screen.



4 **Press ◀ or ▶** to adjust the compression.
- Image can be reduced up to 0.6.
- When the number of dots of projected image corresponds with 832 X 624, 800 X 600, or 640 X 480, the image dimensions are displayed.
- When the input signal dot number corresponds with the projected image, the image dimensions are displayed in colored letter.



Note
- Press MENU to remove the setup screen and menu.
- When reset is selected, adjustment values return to their factory default settings.

	Before adjusting	After adjusting
When reducing an image	 **Press ◀ .....** The image is reduced.	
When enlarging an image	 **Press ▶ .....** The image is enlarged.	

Note
- The maximum optical throw distance can be increased to 1.6 times.
- Please refer to the throw distance and setting up positions on page 12.

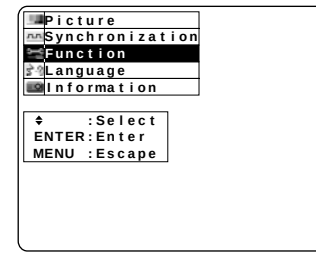
Keystone correction function

When the screen and projector are not level, a keystone (trapezoid) image may occur. This can be corrected by doing the following.
The procedure and on-screen displays below are based on RGB as the input signal. (See page 17.)

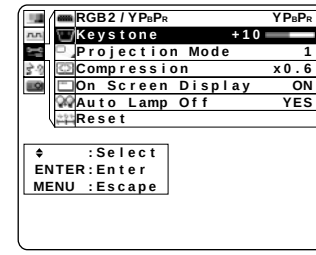
• Adjustment procedure

1 Press MENU to display the menu.

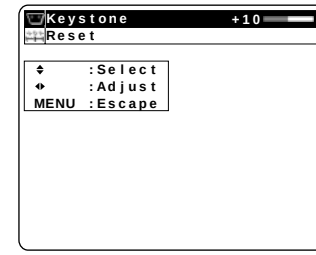
2 Press ▲ or ▼ to select "Function", **and then ENTER** to display the screen.



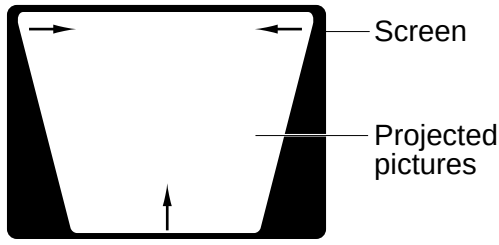
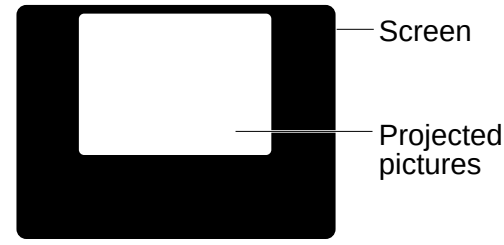
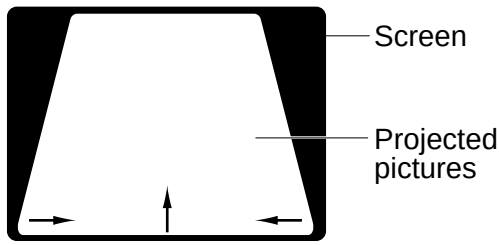
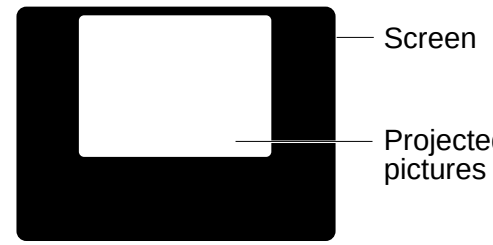
3 Press ▲ or ▼ to select "Keystone", **and then ENTER** to display the screen.



4 Press ◄ or ► to adjust the Keystone.



Note
- Press MENU to remove the setup screen and menu.
- When reset is selected, adjustment values return to their factory default settings.

	Keystone Image	Corrected Image
Keystone (top : wide)	 **Press ► ...** Top becomes narrow.	
Keystone (under : wide)	 **Press ◄ ...** Bottom becomes narrow.	

Note
- The keystone distortion for the picture which is displayed can also be adjusted when the lamp is turned on or the KEYSTONE button is pressed.
- When keystone is corrected, the screen becomes smaller.

Signals that can be Input

The projection mode will be matched automatically to one of the modes which have been pre-set inside the Projector. If a signal which differs greatly from any of the types listed below is input, the picture image may not be displayed correctly, or a blue background may be displayed.

■ RGB Signals that can be Input

Display mode name		Signal data			
		No. of dots	Horizontal frequency (kHz)	Vertical frequency (Hz)	Dot clock frequency (MHz)
Personal Computer Signals	VGA400 (70 Hz)	640 X 400	31.47	70.08	25.175
	VGA480 (60 Hz)	640 X 480	31.47	59.94	25.175
	Macintosh 13″	640 X 480	35.00	66.67	30.241
	VESA400 (85 Hz)	640 X 400	37.86	85.08	31.500
	VESA480 (72 Hz)	640 X 480	37.86	72.81	31.500
	VESA480 (75 Hz)	640 X 480	37.50	75.00	31.500
	VESA480 (85 Hz)	640 X 480	43.27	85.01	36.000
	SVGA (56 Hz)	800 X 600	35.16	56.25	36.000
	SVGA (60 Hz)	800 X 600	37.88	60.32	40.000
	SVGA (72 Hz)	800 X 600	48.08	72.19	50.000
	SVGA (75 Hz)	800 X 600	46.88	75.00	49.500
	SVGA (85 Hz)	800 X 600	53.67	85.06	56.250
	XGA (60 Hz)	1 024 X 768	48.36	60.00	65.000
	XGA (70 Hz)	1 024 X 768	56.48	70.07	75.000
	XGA (75 Hz)	1 024 X 768	60.02	75.03	78.750
	Macintosh 16″	832 X 624	49.73	74.55	57.283
	Macintosh 19″	1 024 X 768	60.24	74.93	80.000
	XGA (85Hz)	1 024 X 768	68.68	85.00	94.500
	*1 152 X 864 (60 Hz)	1 152 X 864	54.05	60.06	80.000
	*1 152 X 864 (70 Hz)	1 152 X 864	63.85	70.01	94.500
	*1 152 X 864 (75 Hz)	1 152 X 864	67.50	75.00	108.000
	*1 152 X 864 (85 Hz)	1 152 X 864	77.09	85.00	121.500
	*Macintosh 21″	1 152 X 870	68.68	75.06	100.000
	*1 280 X 960 (60 Hz)	1 280 X 960	60.00	60.00	108.000
	*1 280 X 960 (75 Hz)	1 280 X 960	75.00	75.00	126.000
	*1 280 X 960 (85 Hz)	1 280 X 960	85.94	85.00	148.500
	*1 280 X 1 024 (60 Hz)	1 280 X 1 024	63.98	60.02	108.000
	*1 280 X 1 024 (75 Hz)	1 280 X 1 024	79.98	75.03	135.000
	*1 280 X 1 024 (85 Hz)	1 280 X 1 024	91.15	85.02	157.500
	*UXGA (60 Hz)	1 600 X 1 200	75.00	60.00	162.000
	*UXGA (65 Hz)	1 600 X 1 200	81.25	65.00	175.500
	*UXGA (70 Hz)	1 600 X 1 200	87.50	70.00	189.000
	*UXGA (75 Hz)	1 600 X 1 200	93.75	75.00	202.500
	*UXGA (80 Hz)	1 600 X 1 200	100.00	80.00	216.000
	*UXGA (85 Hz)	1 600 X 1 200	106.25	85.00	229.500
DTV Format Signals	480 i	664 X 485 i	15.73	29.97	12.650
	480 p	720 X 483	31.47	59.94	27.000
	* 720 p	1 280 X 720	45.00	60.00	74.250
	*1 080 i	1 920 X 1 080 i	33.75	30.00	74.250
	625 i	756 X 576 i	15.63	25.00	14.500

* Changing the number of dots to be displayed to within 1 024 X 768 may cause a portion of information to be omitted, or the image quality to be degraded.

Note

• DTV Format Signals are picture signals from a DVD or a digital broadcast.

Signals that can be Input

■ Component Signals (Y_PB_PR) that can be Input

Display mode name		Signal data			
		No. of dots	Horizontal frequency (kHz)	Vertical frequency (Hz)	Dot clock frequency (MHz)
DTV Format Signals	480 i	664 X 485 i	15.73	29.97	12.650
	480 p	720 X 483	31.47	59.94	27.000
	*720 p	1 280 X 720	45.00	60.00	74.250
	*1 080 i	1 920 X 1 080 i	33.75	30.00	74.250
	625 i	756 X 576 i	15.63	25.00	14.500

* Changing the number of dots to be displayed to within 1 024 X 768 may cause a portion of information to be omitted, or the image quality to be degraded.

Note

• DTV Format Signals are picture signals from a DVD or a digital broadcast.

■ S-VIDEO/VIDEO Signal that can be Input

Signal format name	Horizontal scanning frequency (kHz)	Vertical scanning frequency (Hz)	Color sub-carrier frequency (MHz)
AUTO	Selected automatically.		
NTSC	15.75	60.00	3.58
NTSC4.43			4.43
PAL-M			3.58
PAL	15.63	50.00	4.43
PAL-N			3.58
SECAM			4.25 or 4.41

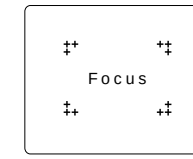
Note

• If the correct signal format is not selected and the picture does not appear as normal when VIDEO or S-VIDEO signal are being input, select the format (see page 28.)

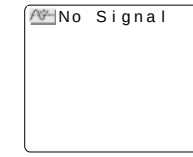
■ Blue (Black) Screen with No Input Signal

The LCD Projector is equipped with an internal Blue (Black) Screen function which turns the screen blue black when the video or computer equipment connected to the input jack is turned off, or when there is nothing connected to the input jack.

• If the power is turned on when no input signal is input to the LCD Projector, the screen will turn blue.
The “Focus” overlay appears only until the video or computer equipment is connected to the input jack and turned on.

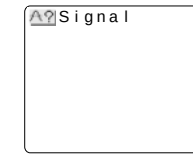


• During operation, if the input signal is terminated, the screen goes black and “No Signal” will be displayed.



• The display at right will appear when the RGB input is within the LCD Projector’s frequency range, but is not one of the LCD Projector’s programmed formats. (See pages 26, 27.)

• Should an RGB signal be input which is out of the LCD Projector’s frequency range, no indication will be present.



Signals that can be Input

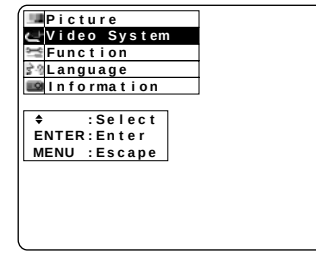
■ S-VIDEO/VIDEO Signal Format Selection

If the correct signal format is not selected and the picture does not appear normal when VIDEO or S-VIDEO signal is being input, select the format by the following procedure. This function is set to “AUTO” at the time of shipment from the factory, so that the Projector can normally be used with this setting.

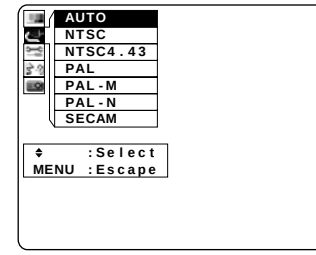
• Setting procedure

1 **Press MENU** to display the menu.

2 **Press ▲ or ▼** to select “Video System”, **and then ENTER** to display the screen.



3 **Press ▲ or ▼** to switch the setting to “AUTO”, “NTSC”, “NTSC4.43”, “PAL”, “PAL-M”, “PAL-N” or “SECAM” until a normal picture is obtained.



Note

- Press MENU to remove the setup screen and menu.
- If using a signal source with poor picture quality, such as a dubbed tape, it may not be possible to get the picture to display properly.
- NTSC and PAL-M have the same scanning frequencies and color sub-carrier frequencies, but they have different color modulation methods. Because of this, if the incorrect setting is selected, color pictures may appear in black-and-white.
- The video system screen is not displayed with no S-VIDEO/VIDEO input signal.

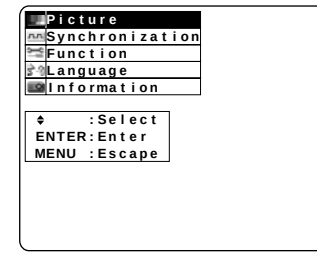
Selecting the Image Quality

This LCD Projector can select NATURAL or DYNAMIC as the special characteristic of image quality.
Follow the instructions below to select the image qualities you prefer.
The procedure and on-screen display as shown below are based on RGB as the input signal from a personal computer.
(See page 17.)

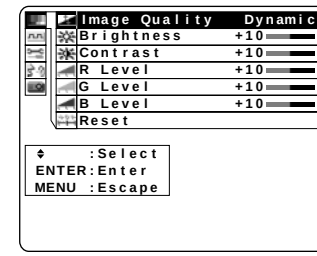
• Selecting procedure

1 **Press MENU** to display the menu.

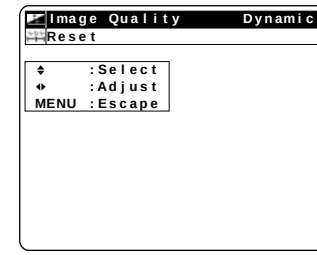
2 **Press ▲ or ▼** to select "Picture", **and then ENTER** to display the screen.



3 **Press ▲ or ▼** to select "Image Quality", **and then ENTER** to display the Image Quality individual adjustment screen.



4 **Press ◀ or ▶** to select the Image Quality.
- Natural is the factory S-VIDEO/VIDEO, YPBPR input signal setting.
- Dynamic is the factory RGB input signal setting.



Note

- Press MENU to remove the setup screen and menu.
- When reset is selected, adjustment values return to their factory default settings.

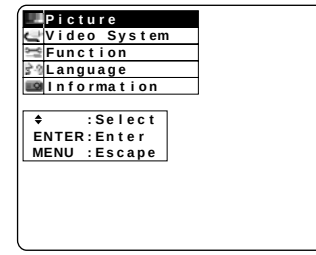
Adjusting the Picture to the Desired Setting

The items which can be adjusted will vary depending on the type of input signal. The adjustment procedure below describes the on-screen displays when the S-VIDEO signal or the VIDEO signal is being projected. (See page 17.)

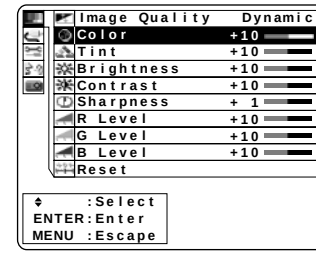
• Adjustment procedure (when adjusting the Color)

1 Press MENU to display the menu.

2 Press ▲ or ▼ to select "Picture", **and then ENTER** to display the screen.

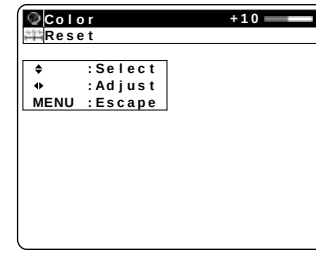


3 Press ▲ or ▼ to select "Color", **and then ENTER** to display the Color individual adjustment screen.



4 Press ◄ or ► to adjust the color.

- The current setting will be displayed on the screen by numerals and a bar.



Note

- Press MENU to remove the setup screen and menu.
- When reset is selected, adjustment values return to their factory default settings.

Depending on the adjustment item, the adjust procedure and adjustment will vary. Please refer to the chart below.

Adjustment item	Button	Adjustment Details	Adjustment Range	Remarks
Color	Press ▶ button.	The color becomes deeper.	Max. value + 30	YPBPR, S-VIDEO/ VIDEO only
	Press ◀ button.	The color becomes paler.	Min. value - 30	
Tint	Press ▶ button.	Flesh tones become greenish.	Max. value + 30	NTSC/NTSC 4.43 (S-VIDEO/VIDEO) only
	Press ◀ button.	Flesh tones become reddish.	Min. value - 30	
Brightness	Press ▶ button.	The screen becomes brighter.	Max. value + 30	
	Press ◀ button.	The screen becomes darker.	Min. value - 30	
Contrast	Press ▶ button.	Only the Highlights of the image become brighter, adding Contrast.	Max. value + 30	
	Press ◀ button.	The Highlights become less bright, diminishing Contrast.	Min. value - 30	
Sharpness	Press ▶ button.	The picture quality becomes sharper.	Max. value + 3	S-VIDEO/VIDEO only
	Press ◀ button.	The picture quality becomes softer.	Min. value - 4	

Note

- The last adjustment condition is saved and will not be erased even if the power is turned off.
- The different adjustment condition cannot be saved for S-VIDEO and VIDEO.
- The value differs with each input signal.

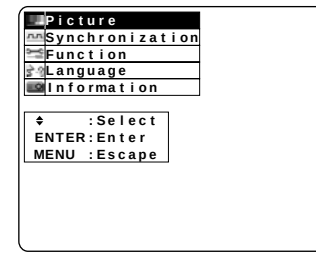
Adjusting the White Balance

The picture may become over-saturated with red or blue color, and the white color may not be at the desired degree of whiteness. In such cases, adjust the white balance by the following procedure.
The procedure and on-screen display as shown below are based on RGB as the input signal from a personal computer. (See page 17.)

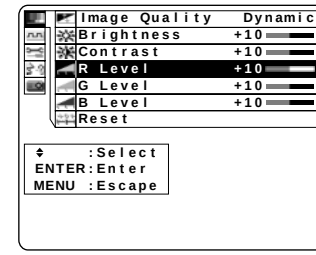
• Adjustment procedure (for white balance adjustment of the red component)

1 Press MENU to display the menu.

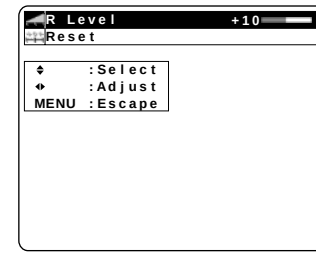
2 Press ▲ or ▼ to select "Picture", **and then ENTER** to display the screen.



3 Press ▲ or ▼ to select "R Level", **and then ENTER** to display the R Level individual adjustment screen.



4 Press ◄ or ► to adjust the R Level setting.
- The current setting will be displayed on the screen by numerals and a bar.



Note
- Press MENU to remove the setup screen and menu.
- When reset is selected, adjustment values return to their factory default settings.

Depending on the adjustment item, the adjust procedure and adjustment will vary. Please refer to the chart below.

Adjustment item	Button	Adjustment Details	Adjustment Range
R Level	Press ► button.	The red component becomes stronger.	Max. value + 30 Min. value - 30
	Press ◄ button.	The red component becomes weaker.	
G Level	Press ► button.	The green component becomes stronger.	
	Press ◄ button.	The green component becomes weaker.	
B Level	Press ► button.	The blue component becomes stronger.	
	Press ◄ button.	The blue component becomes weaker.	

Note
- Unless properly adjusted, none of the colors may display normally.

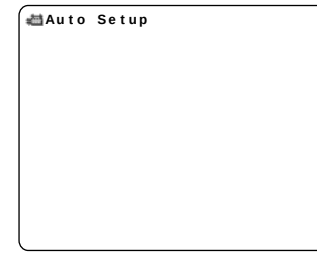
Using the Auto Setup Feature

When RGB input signal picture is projected from a PC (Personal Computer). It is possible to adjust the Vertical position, Horizontal position, Dot clock and Phase automatically. (This only applies for RGB input signal from a personal computer.)
Please follow the instructions below.

• Selecting procedure (for direct operation)

1 Input a signal of the full screen projection image from the connected device, and then project it.

2 Press the AUTO SETUP button on the projector or remote control unit.

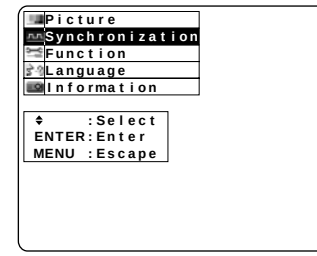


• Selecting procedure (for on-screen display operation)

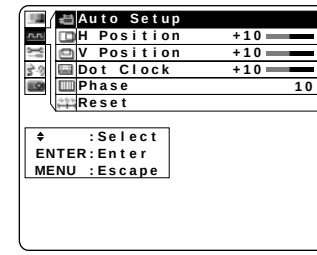
1 Input a signal of the full screen projection image from the connected device, and then project it.

2 Press MENU to display the menu.

3 Press ▲ or ▼ to select “Synchronization”, **and then ENTER** to display the screen.



4 Press ▲ or ▼ to select “Auto Setup”, **and then ENTER**.
The automatic position correction operation will then start. Auto Setup screen is displayed.
- Auto Setup screen disappears when Auto Setup feature is ended.
- Operating buttons, except the POWER button, become invalid during Auto Setup.



Note

- Press MENU to remove the setup screen and menu.
- When reset is selected, adjustment values return to their factory default settings.
- Adjusted settings are saved as is even if power is turned off.
- Auto Setup may not be possible if the input image is not clearly visible on the side of the screen, dark, or monotonous. In this case, refer to page 33 and adjust the image position, dot clock, and phase.
- If a signal other than the proper RGB input signal described on page 26 is input, “Signal” is displayed on-screen indicating that Auto Setup is not possible.
- Of the RGB signals that can be input described on page 26, if the signal has a Vertical dots of less than 480, “Signal” is displayed indicating that Auto Setup cannot be performed.
- In some cases, Auto Setup may take about 40 seconds.

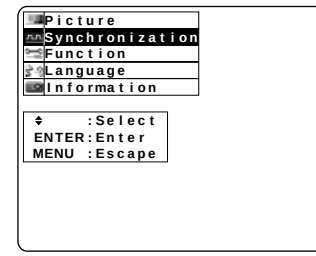
Adjusting the Image Position, Dot Clock and Phase

Confirm the picture position, Dot Clock, and Phase. If the picture is not correctly positioned within the display area of the screen (the edge of the picture does not appear), adjust the picture position. (This only applies for RGB, YPBPR input signal.) The items which can be adjusted will vary depending on the type of input signal. The procedure and on-screen display as shown below are based on RGB as the input signal from a personal computer. (See page 17.)

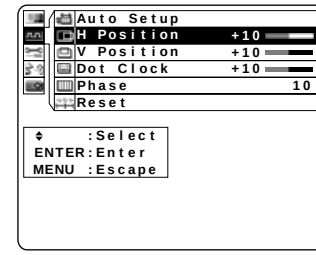
• When adjusting the Horizontal Position (H Position)

1 **Press MENU** to display the menu.

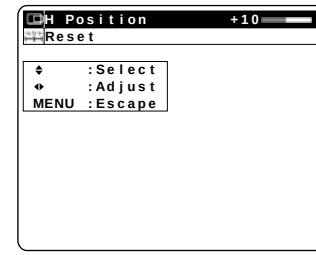
2 **Press ▲ or ▼** to select "Synchronization", **and then ENTER** to display the screen.



3 **Press ▲ or ▼** to select "H Position", **and then ENTER** to display the H Position individual adjustment screen.
- When adjusting the Vertical Position, Dot Clock, and Phase, move the arrow to the item you want to adjust.

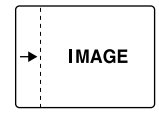
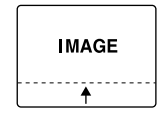
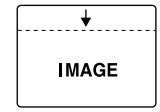


4 **Press ◄ or ►** to adjust the H Position setting.
- The current setting will be displayed on the screen by numerals and a bar.



Note
- Press MENU to remove the setup screen and menu.
- When reset is selected, adjustment values return to their factory default settings.

Depending on the adjustment item, the adjust procedure and adjustment will vary. Please refer to the chart below.

Adjustment item	Button	Adjustment Details	Note
H Position	Press ► button.	The image moves to the right. 	
	Press ◄ button.	The image moves to the left.	
V Position	Press ► button.	The image moves up. 	
	Press ◄ button.	The image moves down. 	
Dot Clock	Adjust the computer's dot clock and the projector's dot clock so that no bit interference (vertical stripes) appears on the screen.		For UXGA, bit interference (vertical stripes) may still appear even after adjustment.
Phase	Adjust in order to remove any picture interference or contour blurring which may occur in computer images.		This is only effective when RGB signals are being input (except UXGA.)

Note
- The last adjustment condition is saved and will not be erased even if the power is turned off.
- The value differs with each input signal.

Using Other Useful Functions

You may use buttons on the LCD Projector or remote control for the following operations.

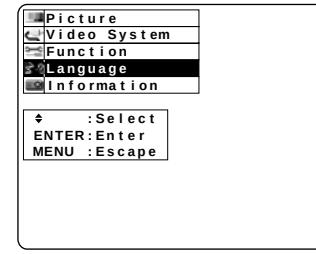
■ Selecting the Language for On-Screen Displays

The language of the LCD Projector is set to English as the factory setting. To select one of six different languages for on-screen displays, follow the instructions below. The procedure below describes the on-screen displays when the S-VIDEO signal or the VIDEO signal is being projected. (See page 17.)

• Selecting procedure (select displays French)

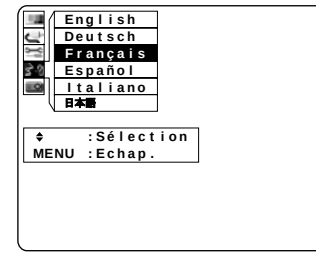
1 Press MENU to display the menu.

2 Press ▲ or ▼ to select "Language"**, and then ENTER** to display the screen.



3 Press ▲ or ▼ to select "Français".

- You can select English, German, French, Spanish, Italian, and Japanese.



Note

- Press MENU to remove the setup screen and menu.

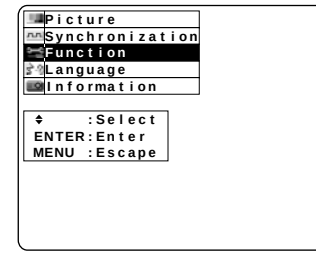
■ Turning off the input signal display

The function which displays the currently selected input signal on the screen can be turned off by the following procedure. Mute and Freeze displays will also be turned off. The procedure and on-screen display as shown below are based on RGB as the input signal from a personal computer. (See page 17.)

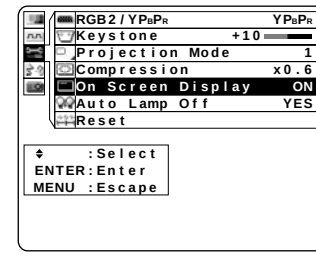
• Selecting procedure

1 Press MENU to display the menu.

2 Press ▲ or ▼ to select "Function"**, and then ENTER** to display the screen.

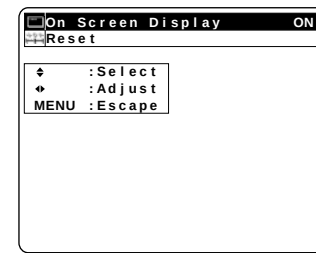


3 Press ▲ or ▼ to select "On Screen Display"**, and then ENTER** to display the screen.



4 Press ◄ or ► to select "ON" or "OFF".

- Select "OFF" to turn off the input signal display function.
- Select "ON" to turn the input signal display function. The input signal will be displayed each time it is changed. (This is the factory setting.)



Note

- Press MENU to remove the setup screen and menu.
- When reset is selected, adjustment values return to their factory default settings.

Using Other Useful Functions

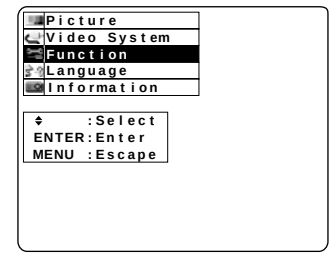
■ Changing to 16:9 (wide) screen format

When a S-VIDEO/VIDEO or DTV Format (RGB, YPBPR) signals is input, the image can be displayed in 16:9 (wide) screen by the following procedure. This only applies for S-VIDEO/VIDEO and DTV Format signal. The procedure below describes the on-screen displays when the S-VIDEO signal or the VIDEO signal is being projected. (See page 17.)

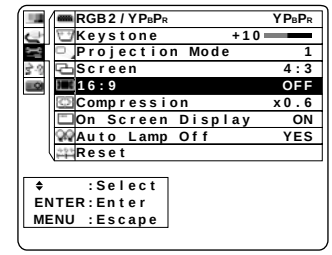
• Selecting procedure

1 **Press MENU** to display the menu.

2 **Press ▲ or ▼** to select “Function”, **and then ENTER** to display the screen.

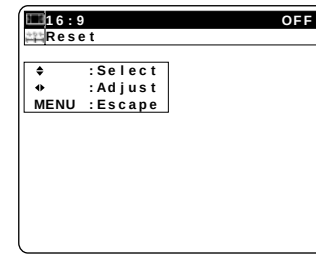


3 **Press ▲ or ▼** to select “16 : 9”, **and then ENTER** to display the screen.



4 **Press ◄ or ►** to select “ON” or “OFF”.

- Select “OFF” to return the normal screen. (This is the factory setting.)
- Select “ON” to display in 16:9 (wide) screen.



Note

- Press MENU to remove the setup screen and menu.
- When reset is selected, adjustment values return to their factory default settings.
- Even if the 16:9 (wide) screen feature is set to OFF, when an “S1” signal or DTV Format signal (720 p, 1 080 i) is input, the image is automatically displayed in 16:9 (wide) screen.

Using Other Useful Functions

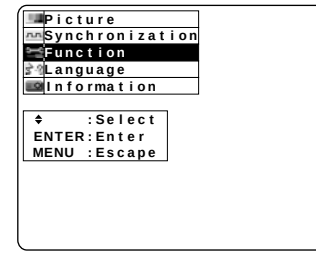
■ Auto Lamp Off

The power save function operates as follows: If the projector continues projecting for 15 minutes or more while there is no input signal to be projected, the light source will shut off automatically to save power. And, the projector will enter standby mode. At the time of shipment from the factory, the Auto Lamp Off function is set YES, so that if you will not use this function, you can turn it off by the following procedure. The procedure and on-screen display as shown below are based on RGB as the input signal from a personal computer. (See page 17.)

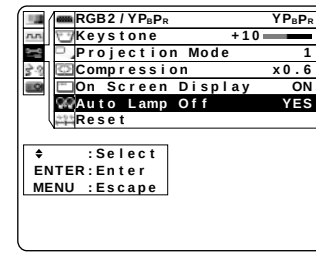
• Selecting procedure

1 **Press MENU** to display the menu.

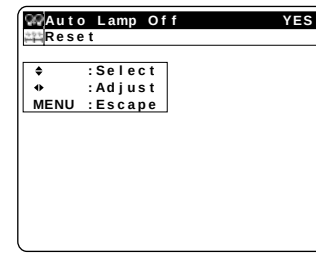
2 **Press ▲ or ▼** to select “Function”, **and then ENTER** to display the screen.



3 **Press ▲ or ▼** to select “Auto Lamp Off”, **and then ENTER** to display the screen.



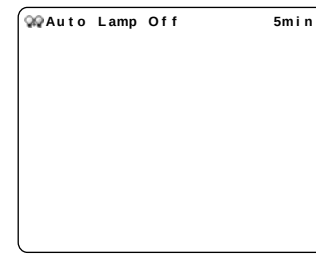
4 **Press ◄ or ►** to select “YES” or “NO”.



Note

- Press MENU to remove the setup screen and menu.
- When reset is selected, adjustment values return to their factory default settings.

The minutes remaining is displayed during the last 5 minutes before the power shuts off.



Using Other Useful Functions

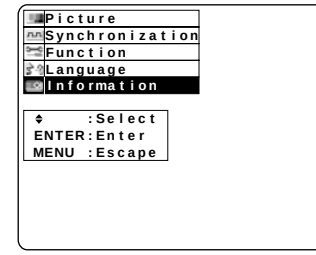
■ Information

You can display the input signal type and lamp run time. Display items differ depending on the input signal. The procedure and on-screen display as shown below are based on RGB as the input signal from a personal computer. (See page 17.)

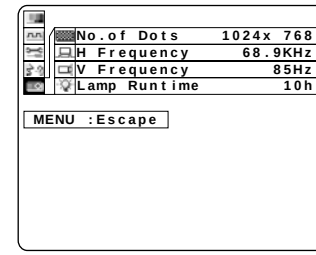
• Procedure

1 Press MENU to display the menu.

2 Press ▲ or ▼ to select “Information”.



3 Press ENTER to display the screen.



Note

• Press MENU to remove the setup screen and menu.

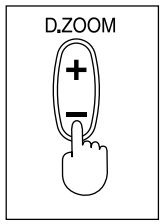
Display Item	Description	Remarks
No. of Dots	Input signal dot number is displayed.	RGB only
H Frequency	Horizontal frequency number is displayed.	RGB only
V Frequency	Vertical frequency number is displayed.	RGB only
Signal	Name of the input signal type is displayed. When AUTO is selected in the Video System screen, the selected format will be displayed.	$Y P_B P_R$ Video/S-Video only
Lamp Runtime	Number of hours the lamp has been used is displayed.	

Using Other Useful Functions

■ Digital Zoom

You can enlarge and project specific portions of the input picture and select the enlargement ratio for this portion using the D.ZOOM +/- buttons on the remote control unit.

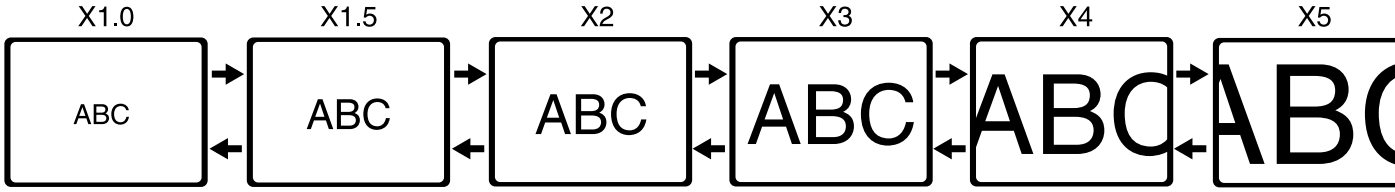
(Remote Control unit)



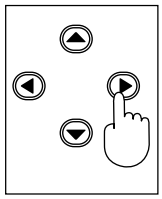
- **Press D.ZOOM +** button the picture will become bigger.
- **Press D.ZOOM -** button the picture will become smaller.

Note

- You can enlarge the center portion of the image to one of 6 magnifications.



(Remote Control unit)



- **Use the ▲ and ▼ arrow buttons** to move the position up and down.
- **Use the ◄ and ► arrow buttons** to move the position to the left and right.

Projecting the DTV Format Signal

A DTV Format Signal, such as DVD or digital broadcast, etc. can be input and projected with this Projector. When using this function, please refer to page 42 to correctly connect to the output device of the DTV Format Signal and perform the following settings correctly.

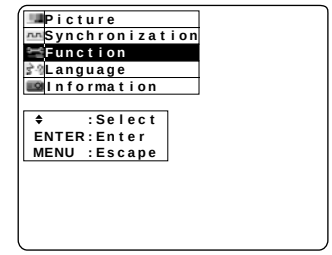
■ Setting of the RGB2/YPBPR Input Signal Selection

This LCD Projector allows input of RGB or YPBPR signal (Component input signal) to the RGB2/YPBPR input terminal, but you will need to change the setting of the input signal selection manually when changing the signal to be input. If the input signal selection is not set correctly, a normal image will not be projected.
The RGB input signal is set at the factory. Please follow the instructions below to change the input signal.

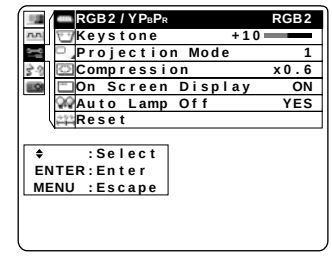
• Setting procedure

1 **Press MENU** to display the menu.

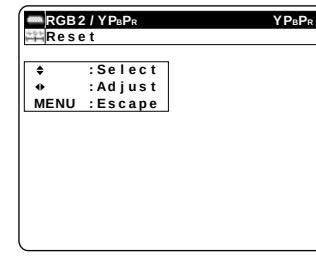
2 **Press ▲ or ▼** to select "Function", **and then ENTER** to display the screen.



3 **Press ▲ or ▼** to select "RGB2/YPBPR", **and then ENTER** to display the screen.



4 **Press ◄ or ►** to change the input signal.



Note

- Press MENU to remove the setup screen and menu.
- When reset is selected, adjustment values return to their factory default settings.

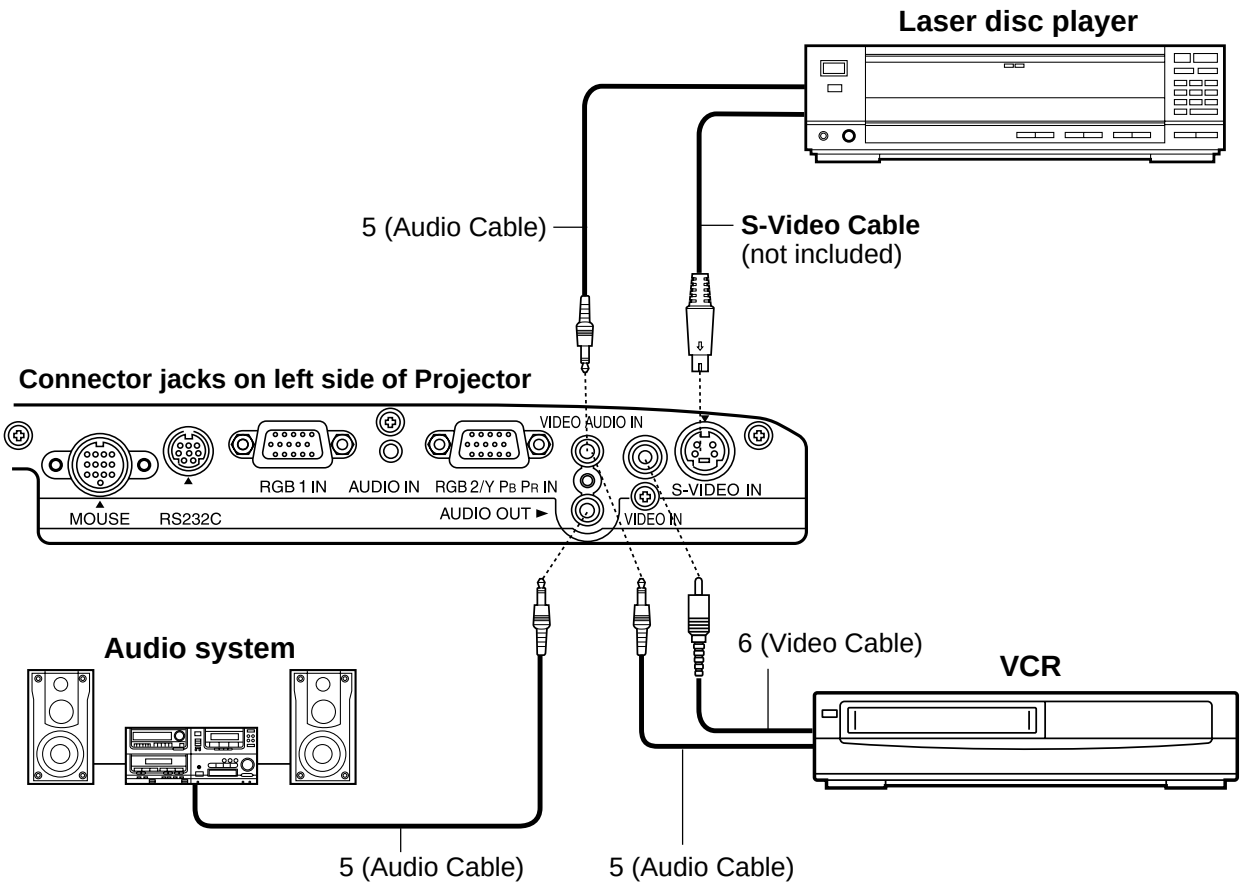
System Configuration Example

Notes on system configuration

- Turn off the power supply of each system component before connecting any of the components.
- Read the instruction manual for each system component before connecting it.
- If the necessary cables for connecting any system components are not supplied with the component or available as an option, you may need to fashion a cable to suit the component concerned.
- If there is a lot of jitter in the video signal input from the video source, the picture on the screen may flicker. In such cases, it will be necessary to connect a TBC (time base corrector).
- The Projector can be connected to video signal sources which out put VIDEO, S-VIDEO, analog RGB signals and Component signals (YPBPR signals).
- The Projector has built-in speaker. However, you will need to connect a separate audio system to the AUDIO OUT terminal if your needs specify high sound volumes.
- It may not be possible to connect some types of personal computer.

■ Example of connection to audio-visual equipment

Diagram numbers correspond with numbers (see page 43.)



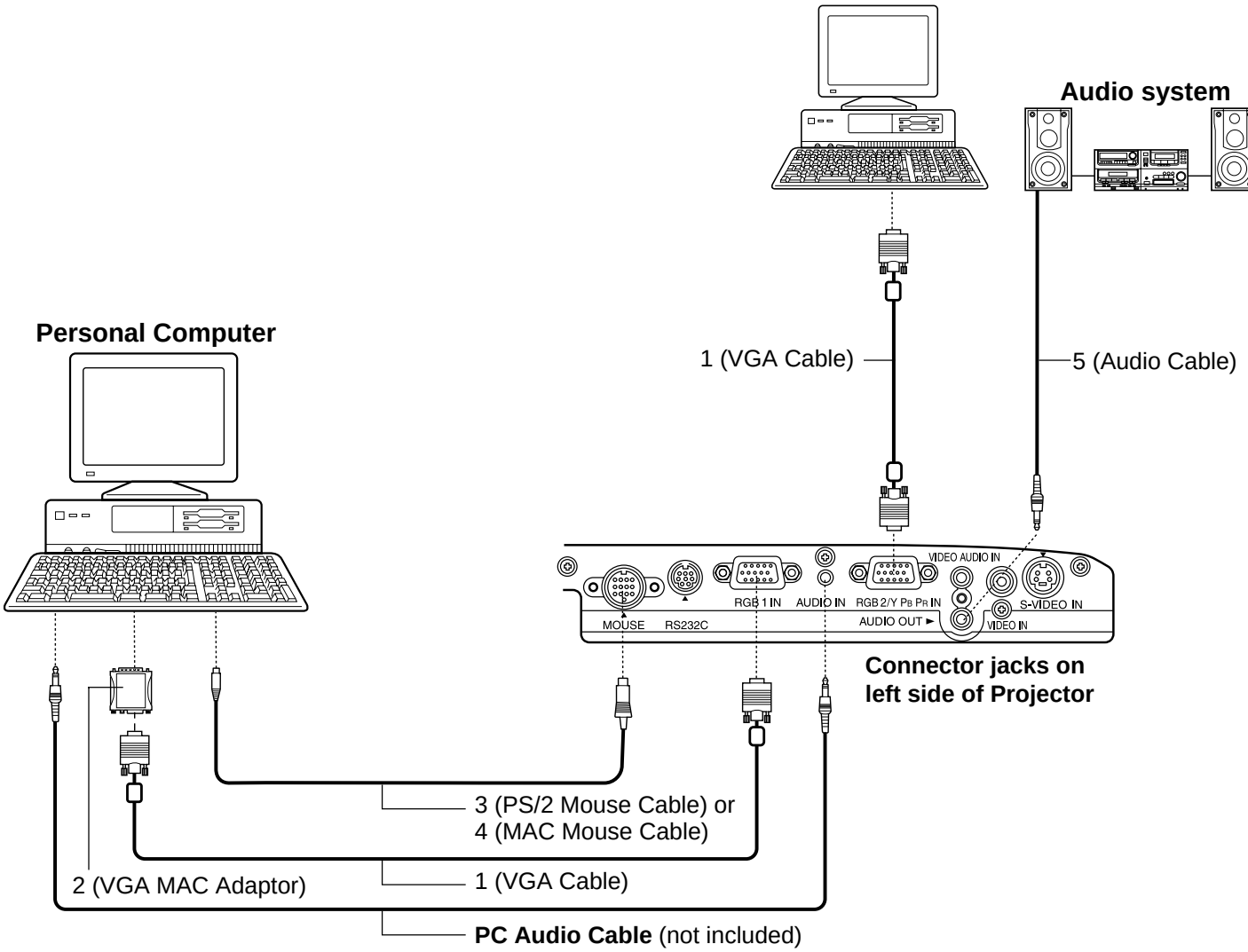
Note

- Only one audio signal input system is available for the VIDEO AUDIO IN terminals for S-VIDEO/VIDEO signals, so if you wish to change the audio input source, you will need to remove and insert the appropriate plugs.
- If an audio system is connected to the AUDIO OUT terminal, muting can be controlled by the remote control which is supplied with the Projector.
- If the video signal source is connected using a cable with a BNC junction plug, use the BNC-RCA Adaptor (not included) to convert the pin jack.

System Configuration Example

■ Example of connection to a Personal computer

Diagram numbers correspond with numbers (see page 43.)



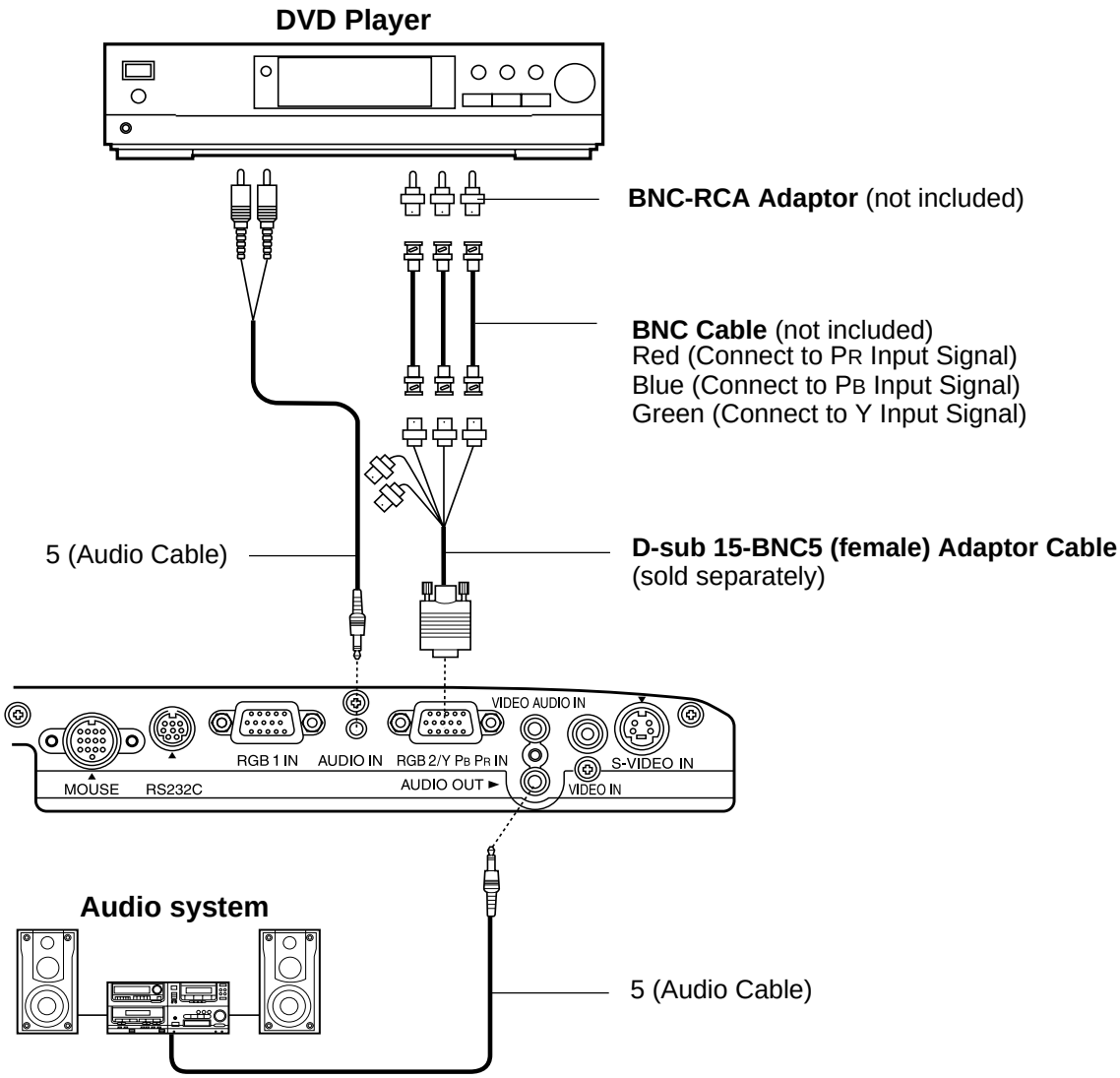
Note

- The RGB input accepts signals from VGA, SVGA, XGA, SXGA (Compression), UXGA (Compression), and Macintosh compatible computers without the need for any additional hardware.
- Plug the VGA signal cable (supplied) correctly into the RGB1 IN terminal or RGB2/YPBPR IN terminal on the LCD Projector and the RGB signal Output terminal on your computer. Secure the plugs by tightening the thumb screws. When connecting the LCD Projector to a Macintosh Series computer, first connect the VGA MAC Adaptor (supplied) to the RGB signal Output terminal on your computer. Secure the plugs by tightening the thumb screws. Be sure to set the DIP switch on the VGA MAC adapter to your display type. (See page 43.)
- When the LCD Projector is connected to personal computer, you can use the remote control in place of the personal computer's mouse by attaching the Mouse cable.
- If you wish to use the wireless mouse function, turn on the main power of the Projector before turning on the personal computer.
- When connecting the LCD Projector to a compatible computer other than a VGA, SVGA, XGA, SXGA (Compression), UXGA (Compression), or Macintosh series, a separate cable is needed.
- The wireless mouse feature may not be operable when using a personal computer with the Resume (last memory) feature and the feature is not reset.
- If you wish to use the plug & play function, turn on the MAIN power switch on the LCD Projector before turning on the personal computer.
- There is only one audio system circuit provided for the AUDIO IN terminals for RGB1, RGB2 and YPBPR signals. Because of this, if using both RGB signals and YPBPR signals, it will be necessary to change over the connectors.

System Configuration Example

■ Connecting D-sub 15-BNC5 (female) Adaptor Cable

The Component signal (YPBPR signal) can be input and projected with this LCD Projector.
Please read the operating instructions regarding the output side of the component when connecting.
Diagram numbers correspond with numbers (see page 43.)



Note

- Because each Y, PB, and PR signal is input independently, the Component signal allows for more faithful color reproduction.
- The Component signal output terminal indication will differ according to the output device (PR, PB, Y/R-Y, B-Y, Y/Cr, Cb, Y, etc.).
  Please read the operating instructions included with the output device.
- You need to change the input signal setting on this LCD Projector when inputting the Component signal. In this case, please refer to page 39 to change the setting.
- D-sub 15-BNC5 (female) Adaptor Cable (sold separately) often have BNC connectors, however a DVD output device usually has RCA jacks. In this case, you will need BNC-RCA adaptors (not included).

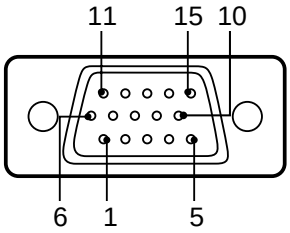
Video/Personal Computer Cables & Adaptors

These accessories are supplied in order to connect the LCD Projector to Personal Computer/ AV equipment. The numbers in the left column correspond with the numbers in the connection diagrams on pages 40 - 42, 46.

No.	CABLE/ADAPTOR	PORT		LENGTH
		Projector side	Personal Computer/AV products side	
1	VGA Cable	D-Sub mini 15-pin (male)	D-Sub mini 15-pin (male)	6.56 ft (2.0 m)
2	VGA MAC Adaptor	D-Sub mini 15-pin (female)	MAC D-Sub 15-pin (male)	—
3	PS/2 Mouse Cable	13-pin round (male)	Din 6-pin (male)	6.56 ft (2.0 m)
4	MAC Mouse Cable	13-pin round (male)	Din 4-pin (male)	6.56 ft (2.0 m)
5	Audio Cable	M3 stereo mini pin (male)	RCA pin (male) X 2	4.92 ft (1.5 m)
6	Video Cable	RCA pin (male)	RCA pin (male)	4.92 ft (1.5 m)
7	USB Cable	Type B	Type A	6.56 ft (2.0 m)

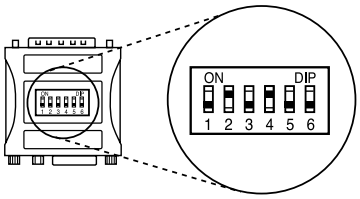
[RGB connector]

(On Projector)



Pin No.	Signal name	Pin No.	Signal name
1	R	9	NC
2	G	10	Ground
3	B	11	NC
4	NC	12	SDA
5	NC	13	HD/CSYNC
6	Ground for R	14	VD
7	Ground for G	15	SCL
8	Ground for B		

[VGA MAC Adaptor]



Example: If your display type is 16″, set DIP switches 2 and 4 on the VGA MAC Adaptor to ON. By doing so, the signal will travel through switches 2 and 4, and Pin No. 4 to 10 as shown in the signal chart above.

[Setting the DIP Switches]

RESOLUTION	DIP SWITCHES					
	1	2	3	4	5	6
*21" MULTIMODE	●	●				●
*17" MULTIMODE	●	●			●	
*13" MULTIMODE	●	●			●	●
VGA/SVGA MODE			●	●		
21" 1152 x 870	●	●	●	●		
19" 1024 x 768		●	●			
16" 832 x 624		●		●		
13" 640 x 480	●	●				

LEGEND:
* = SUPPORTS APPLE MULTIPLE SCAN SOFTWARE
● = ON

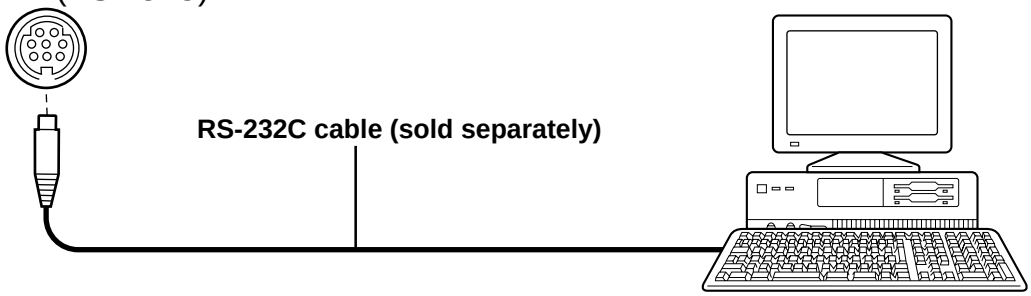
Find the resolution of your display type on the table shown left (also on the adaptor). Then, set each DIP switch that is indicated by a "●" mark to ON.

Using the SERIAL connector (RS-232C)

The serial connector which is on the side terminal board of the projector conforms to the RS-232C interface specification, so that the projector can be controlled by a personal computer which is connected to this connector.

<Side terminal board>

SERIAL(RS-232C)

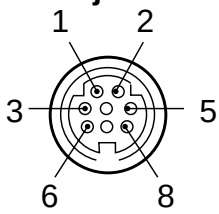


Note

Use a proper communication cable which is suitable for the personal computer to connect the serial connector and the personal computer.

Pin layout and signal names for SERIAL connector

Projector



Mini Din 8-pin (female)

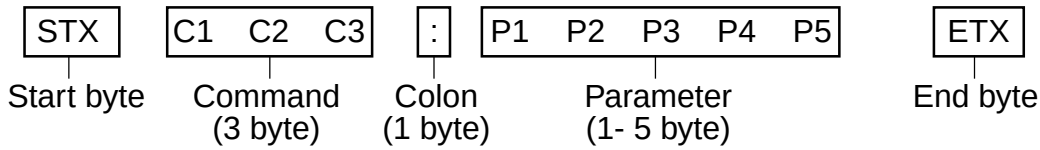
Pin No.	Signal name	Contents
1	CTS	Connected internally
2	RTS	Connected internally
3	RXD	Received data
4	GND	GND
5	TXD	Transmitted data
6		NC
7		NC
8		NC

Communication settings

Signal level	Determined by RS-232C interface
Synchronizing method	Asynchronous
Baud rate	9 600 bps
Parity	None
Character length	8 bit
Stop bit	1 bit
X parameter	None
S parameter	None

Basic format

Each packet which is sent from the personal computer starts with STX. Following this is the command itself and the parameters for that command (if any,) and the packet then ends with ETX. Add parameters when necessary according to the control contents.



Note

- If sending multiple commands, check that a response has been received from the projector for one command before sending the next command. When a command which do not require parameters is sent, the colon (:) is not required.
- If an incorrect command is sent from the personal computer, the “ER401” command will be sent from the projector to the personal computer.

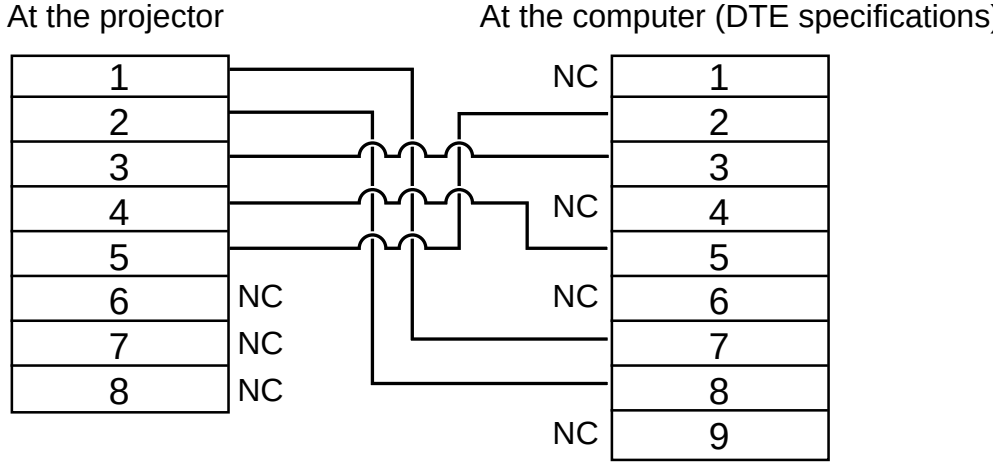
Using the SERIAL connector (RS-232C)

Control commands

The commands which the personal computer can use to control the projector are shown in the following table.

Command	Control Contents	Remarks
PON	Power ON	In standby mode, all commands other than the PON command are ignored. • The PON command is ignored during lamp ON control. • If a PON command is received while the cooling fan is operating after the lamps have switched off, the lamps are not turned back on again until approximately 60 seconds have passed since they turned off, in order to protect the lamps.
POF	Power OFF	
AVL	Volume	Parameter 000 = Adjustment value 0 : = : 063 = Adjustment value 63
AMT	Audio Mute	Parameter 0 = MUTE OFF 1 = MUTE ON
OPM	Video Mute	Parameter 0 = MUTE OFF 1 = MUTE ON
IIS	Input signal selection	Parameter VID = VIDEO RG1 = RGB1 SVD = S-VIDEO RG2 = RGB2
ORF	RGB2 format selection	Parameter 0 = RGB 1 = YPBPR
Q$S	Lamp ON condition query	Parameter 0 = Standby mode 1 = Lamp ON control active 2 = Lamp ON 3 = Lamp OFF control active

Cable specifications

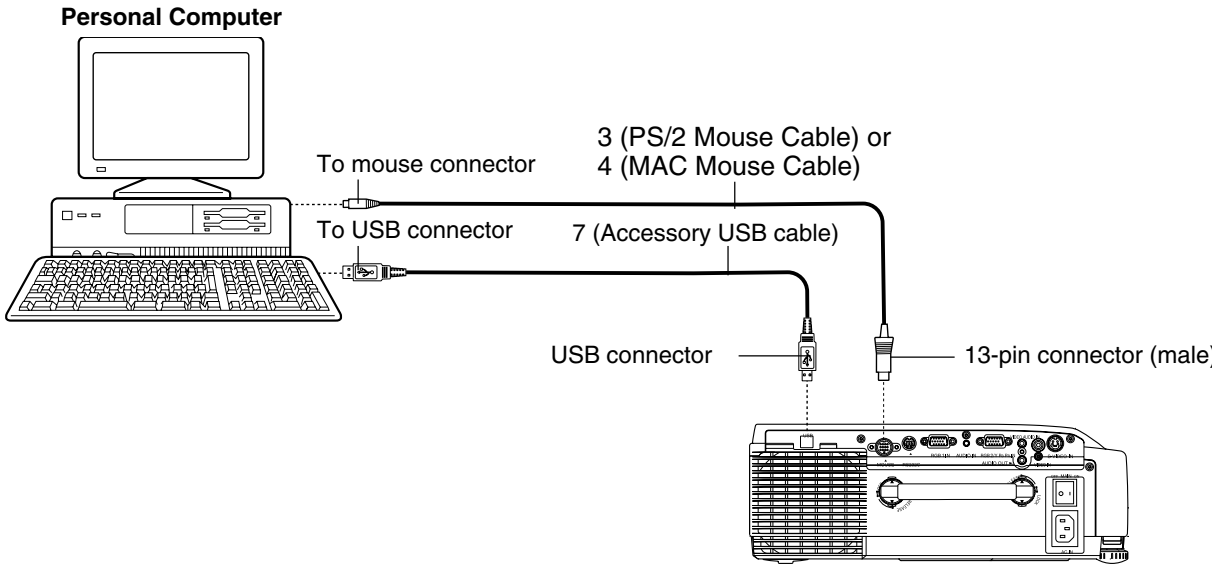


Wireless mouse and keyboard

By connecting the mouse cable (for PS/2) included with the PT-L759U to the computer's mouse connector, the PT-L759U's remote control unit can be operated with the mouse. When connected using the USB cable, in addition to the above mouse operations, the keyboard's cursor keys (↑, ↓, ← and →) can be operated with the remote control unit.

■ Example of connection

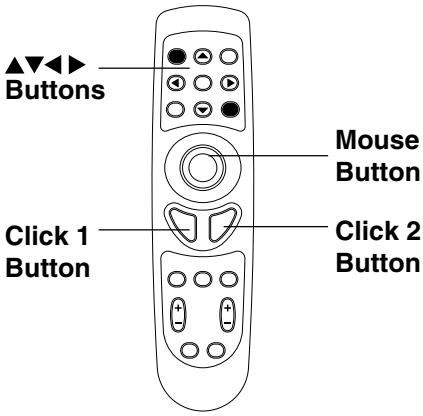
Diagram numbers correspond with numbers (see page 43.)

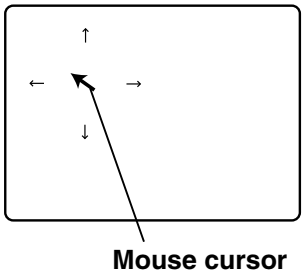


Note

- Do not connect the USB cable and mouse cable at the same time.
- A computer equipped with a USB port as standard and on which Windows 98 or Mac OS9 is preinstalled is required when connecting the USB cable. To use a mouse connector other than the PS/2 port, purchase a separately sold mouse cable.
- Consult a sales outlet when purchasing a separately sold mouse cable. The PT-L759U is compatible with the following mice: PS/2 mouse, serial mouse, Macintosh, PC-98 series
- Only use mouse cables designed exclusively for the PT-L759U.

■ Operation





▲▼◀▶ Buttons

You can operate the ▲, ▼, ◀, ▶ buttons on the remote control instead of on your PC only if USB connection is used.

Note

- This function can only be used when connected with the USB cable.
- This does not function while the menu screen is displayed and during digital zooming.
- Not Macintosh compatible.

Click 1 Button

This button corresponds to the button on a single-button mouse, or to the left button on a standard mouse with two buttons.

Click 2 Button

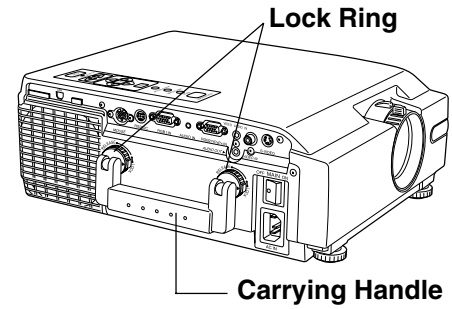
This button corresponds to the right button on a standard mouse with two buttons.

Mouse Button

Press this button lightly with your thumb and move to move the mouse cursor on the screen. Pressing strongly is the same as pressing the click 1 button. Dragging is possible by pressing as such and moving.

Removing and Attaching the Carrying Handle

The LCD Projector Carrying Handle can be removed and attached. When the Projector is set up so that it need not be moved, you can improve the appearance of the Projector by removing the handle.
Please follow the instructions below to remove and attach the carrying handle.

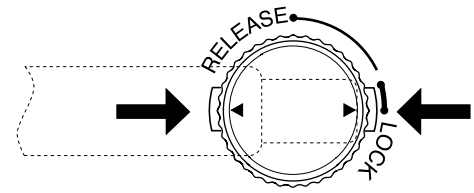


■ When Removing the Carrying Handle

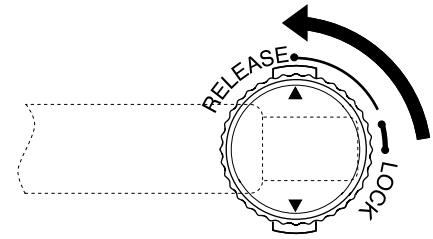
1 Hold in the two lock buttons, located on the Lock Ring at the base of the handle as shown.

Note

- Remove the handle while in the raised position. Removal is difficult if in the lowered position.



2 Turn the Lock Ring to the left so that the ▲ mark points to RELEASE on the LCD Projector.



3 Repeat steps 1 and 2 and remove the other Lock Ring.

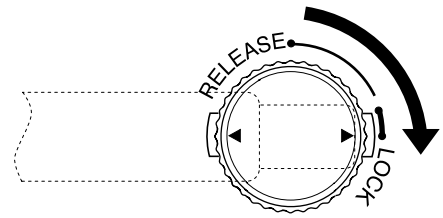
4 Slowly pull the carrying handle straight out from the LCD Projector.

■ When Attaching the Carrying Handle

1 Insert the carrying handle into the LCD Projector so that the ▲ mark on the Lock Ring is aligned with RELEASE on the LCD Projector.

2 Hold in the two lock buttons, located on the Lock Ring at the base of the handle as shown.

3 Turn the Lock Ring to the right so the ▲ mark points to LOCK on the LCD Projector and you hear it click into the locked position. (The Lock Ring is locked.)



4 Repeat steps 1 and 2 and remove the other Lock Ring.

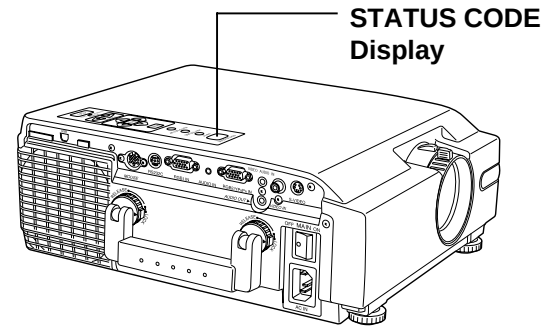
Note

- Attach the carrying handle securely. If you carry the LCD Projector with the carrying handle improperly attached, the handle could come off and you sometimes cause injury.

Status Code Display Indications

■ Warning Indicators

This LCD Projector has a STATUS CODE Display which calls your attention to problem conditions existing inside the LCD Projector. The LCD Projector displays a Status Code Indication each time an internal problem is detected. If any of the following indications appear in the STATUS CODE Display, immediately turn off the Main Power switch, and then see the chart to determine a course of action.



STATUS CODE	Symptom	Problem	Possible Solution
F-L	Lamp Unit automatically turns off due to abnormally high internal temperature. (Stand-by condition)	• Cooling fan malfunction.	• Take the Projector to your nearest Service Center.
F-0		• Misinstalled Air Filter Unit.	• Properly install Air Filter Unit (See page 49.)
A-n		• Temperature Sensor malfunction.	• Take the Projector to your nearest Service Center.
A-0		• Clogged air filter. • Blocked air intake. • The surrounding temperature of the place of use may be too high.	• Clean the filter (See page 49.) • Relocate projector to a proper location. • Place Projector so that surrounding temperature is between 5 °C (41 °F) and 40 °C (104 °F) and the humidity is between 10 % and 80 % (with no condensation.)
L-n	Lamp does not light up.	• Lamp is burned-out.	• Take the Projector to your nearest Service Center.
P-2		• Lamp Voltage is not correct.	
P-3		• Abnormal temperature rise.	
P-4		• Other causes.	
L-1	Lamp operation time is over 1 900 hours.	• It is nearly time to replace the Lamp Unit.	• Replace the Lamp unit. (See pages 51, 52.)
L-0	Lamp operation time is over 2 000 hours.	• The Lamp Unit must be replaced.	
C-d	Forced cooling fan operating to expedite lamp replacement (See page 51.)	———	———

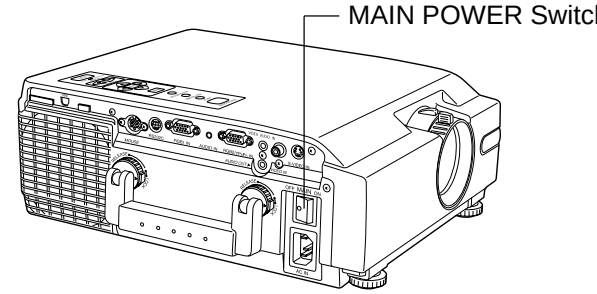
Note

• Please wait one minute before turning the power back on, to allow the lamp to cool. A much longer time may be required if the projector had attained an abnormally high internal temperature.

Cleaning the Air Filter

■ Air Filter

The air filter should be cleaned about every 100 hours. Also, clean the air filter if the “A-0” is indicated in the STATUS CODE display.
Replace the filter when it is clogged or dirty even after cleaning.



■ Cleaning procedure

Tools required: Vacuum Cleaner.

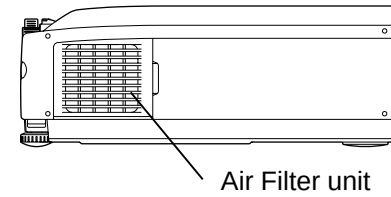
1 Set the MAIN POWER Switch to OFF and unplug the power cord.

- Wait until the cooling fan stops and the STANDBY(R) ON(G) indicator turns solid red.

2 Place the LCD Projector up on its side as illustrated.

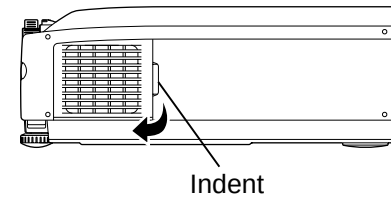
Note

- When transporting the PT-L759U, grasp the carrying handle and place in a flat, stable place.



3 Remove the Air Filter unit

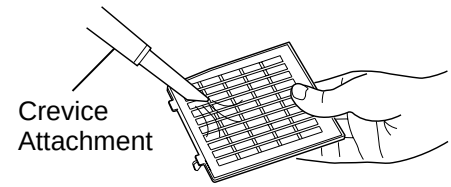
Hold the indent on the Air Filter unit with your hands and pull the Air Filter unit out of the LCD Projector.



4 Clean the Filter.

Gently remove any accumulated dust from Air Filter unit with your vacuum cleaner.

CAUTION: Operating LCD Projector with torn or damaged Filter may cause damage to LCD Projector.

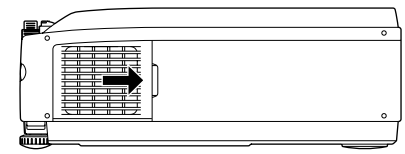


5 Replace the Air Filter unit.

Slide the Air Filter unit into the LCD Projector until hollows in the Air Filter unit are aligned with the hollows in the Projector.

Note

- The LCD Projector power cannot be turned on unless the Air Filter unit is correctly installed.
- Using with the air filter sponge removed will result in dirt and dust being drawn in and lead to malfunction.



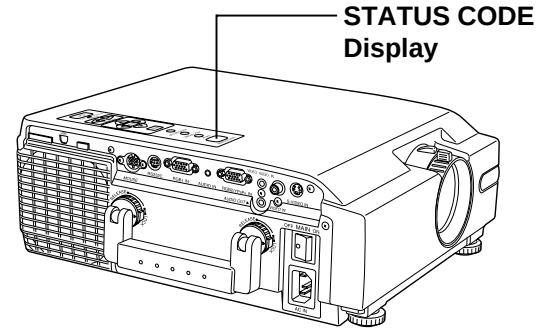
Note

- If the dust cannot be removed by cleaning, it is time to replace the air filter. Consult a sales outlet.

Lamp Replacement

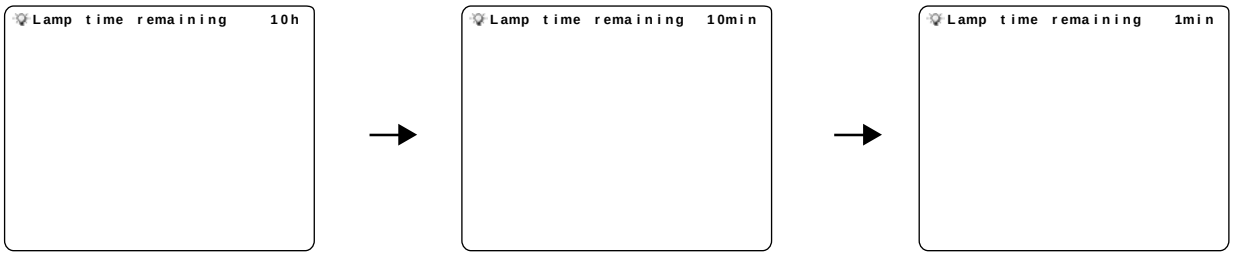
Warning If Status Code “L-n” (see page 48) is displayed on the Status Code Display when lamp is not turned on, take the LCD Projector to your nearest Service Center for repair as there is danger of injury due to lamp fragments.

■ Lamp replacement period



The LCD Projector lamp has a limited operating life of approximately 2 000 hours.
If lamp operation time exceeds 1 900 hours, the operation time is displayed (at startup only) and “L-1” is displayed as the STATUS CODE.
“Lamp time remaining 10h” will be displayed on-screen when operation time reaches 1 990 hours.
Then, each time the power is turned on, the Lamp life remaining will be displayed.

- 15 second warning display (15 seconds when the LCD Projector power is turned on) will appear every 1 hour from 1 990 hours of operation time. And the warning will flash during the last 5 minutes of Lamp life.



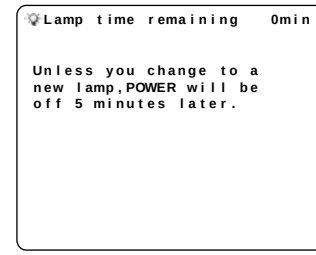
Note

- The lamp used as the light source eventually wears out. The service life of the light source lamp used on the PT-L759U is about 2 000 hours, but depending on the individual lamp’s properties and the usage conditions the lamp may no longer light after less than 2 000 hours (the lamp is affected by the number of times the lamp is lit and the time span until it is relit, and these may shorten the service life). Because of this, we recommend having a replacement lamp on hand.

■ In case lamp use reaches 2 000 hours

The LCD Projector will shut itself OFF and the STATUS CODE indication becomes “L-0”. (See STATUS CODE on page 48.)

- If the Lamp is not replaced, turning POWER on will only cause the screen at right to be displayed for 5 minutes.



Note

- Replace the Lamps as described in steps 1-7 on page 51, 52 and, please see the included separate sheet to perform the reset procedure.

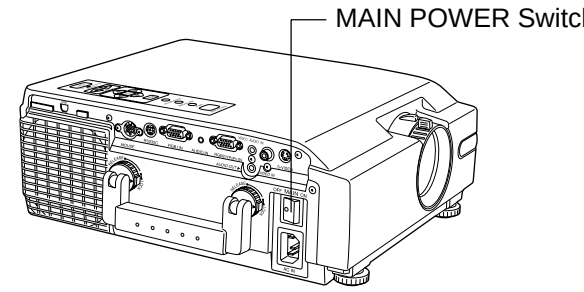
Lamp Replacement

■ Lamp replacement procedure

Caution: Because of possibility of injury, strictly follow the replacement procedure below.
Order Lamp ET-LA059.

---

1 After the cooling fan has stopped, and STANDBY(R) ON(G) indicator turns solid red. Set the MAIN POWER Switch to OFF and unplug the power cord.



Note

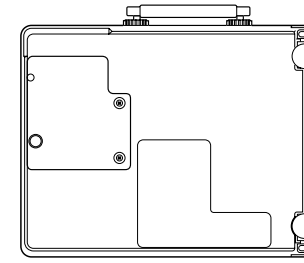
- Please wait more than one hour for lamp replacement.

[If you need to replace the lamp more urgently]

- The LCD Projector has a forced cooling feature. After the POWER switch is turned OFF, and sometime during about the first minute of the normal cooling fan operation, press ◀ and ▶ at same time. The cooling fan will change to high speed for about 10 minutes. (The "C-d" STATUS CODE will be displayed.)

---

2 Grabbing the handle, place the LCD Projector up on its side as illustrated.



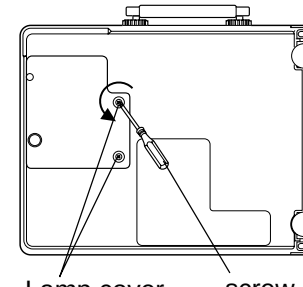
Note

- When transporting the PT-L759U, grasp the carrying handle and place in a flat, stable place.

---

3 Remove the Lamp cover screws.

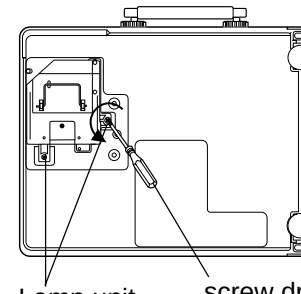
First read caution and warning labels on Lamp cover. Then, remove the Lamp cover screws (2) by using screw driver, and take off the lamp cover.



---

4 Remove the Lamp unit screws.

Remove the lamp unit screws (2), then grasp the Lamp unit handle and carefully pull it from the LCD Projector. Keep Lamp housing opening to your right. Do not touch Lamp or point Lamp opening at anyone.



WARNING: The lamp may be hot. Be careful when handling.

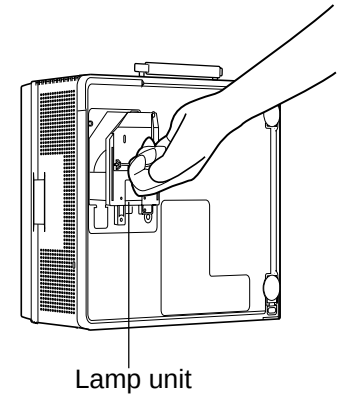
CAUTION:
- High-pressure lamp may be explode if improperly handled.
- Danger of injury due to lamp fragments.

Lamp Replacement

5 Install the new Lamp unit.

Remove the Lamp ET-LA059 from the LCD Projector and install a new lamp unit (ET-LA059.)

- Do not drop, impact of dropping may cause Lamp to explode.



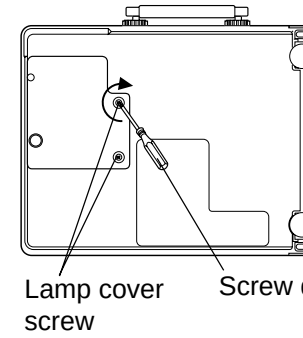
6 Replace the Lamp unit screws.

Replace the Lamp unit screw and the Lamp cover screws using a screwdriver to tighten.

- Properly dispose of old Lamp.

Note

- Attach the lamp unit and lamp unit housing door securely. If the lamp unit and lamp unit housing door are not attached securely, the protective circuit will be activated and the power will not turn on.



7 Plug the LCD Projector back in by inserting the Power cord in LCD Projector AC socket and set the Main Power Switch to ON.

8 For lamp replacement, please see the included separate sheet to perform the reset procedure.

THERMISTOR C.B.A.

MAIN C.B.A.

(COMPONENT SIDE)

INFRARED SENSOR FRONT C.B.A.

TO DUCT FAN

TO SPEAKER UNIT

TO FILTER SW UNIT

TO LAMP FAN-2

TO SYSTEM POWER C.B.A. (P1701)

TO LAMP FAN-1

DRIVE SECTION REF.NO.3500 SERIES

POWER / AUDIO SECTION REF.NO.4000 SERIES

POWER / AUDIO SECTION REF.NO.1900 SERIES

VIDEO SECTION REF.NO.5000 SERIES

SYSTEM SECTION REF.NO.6000 SERIES

INPUT SECTION REF.NO.3000 SERIES

SYSTEM SECTION REF.NO.6000 SERIES

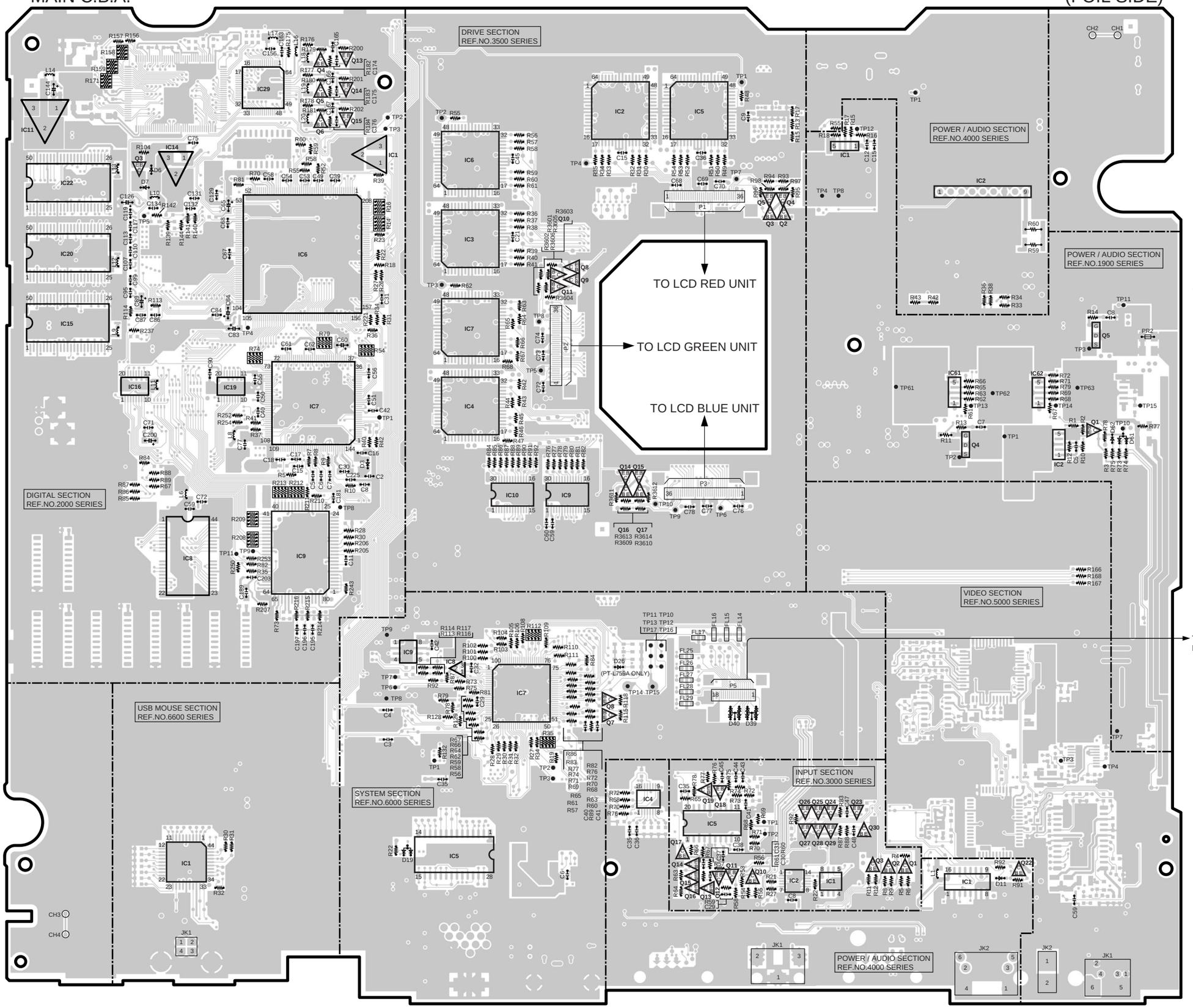
DIGITAL SECTION REF.NO.2000 SERIES

USB MOUSE SECTION REF.NO.6600 SERIES

(QUADRUPLE PATTERNS)

MAIN C.B.A.

(FOIL SIDE)



NOTE: QUADRUPLE PATTERNS C.B.A.

THIS C.B.A. IS QUADRUPLE PATTERNS C.B.A. THIS CIRCUIT BOARD SHOWS COMPONENT LAYOUT-PATTERN FOR COMPONENT SIDE AND FOIL SIDE. LAYOUT-PATTERNS ARE SINGLE PATTERN FOR EACH SIDE THAT MAKE EASY TO SIGHT THE COMPOENT LAYOUT.

IMPORTANT SAFETY NOTICE:

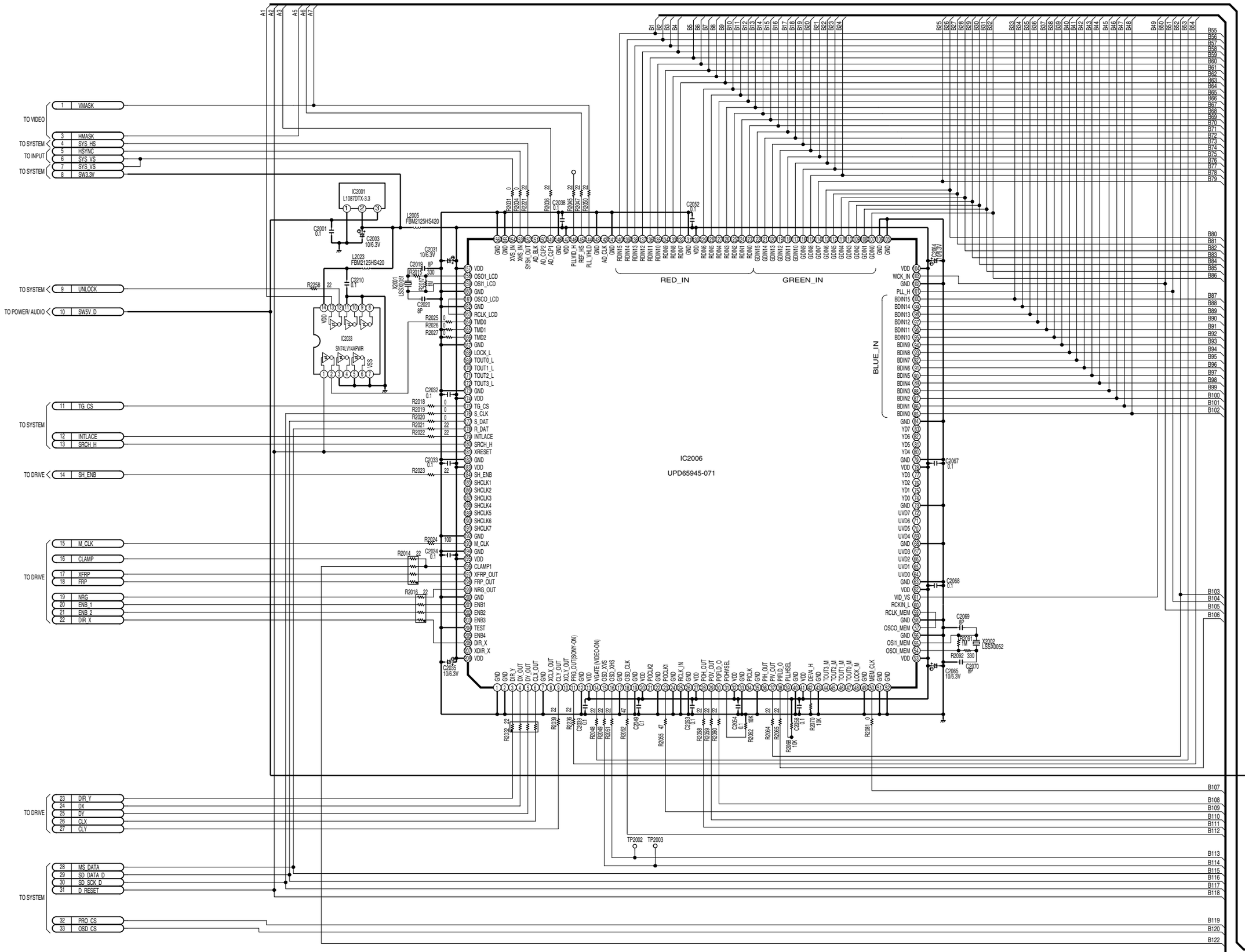
COMPONENTS IDENTIFIED BY THE SINE ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.

NOTE: REF.NO. ON MAIN C.B.A. IS ABBEWVIATED AS FOLLOWS.

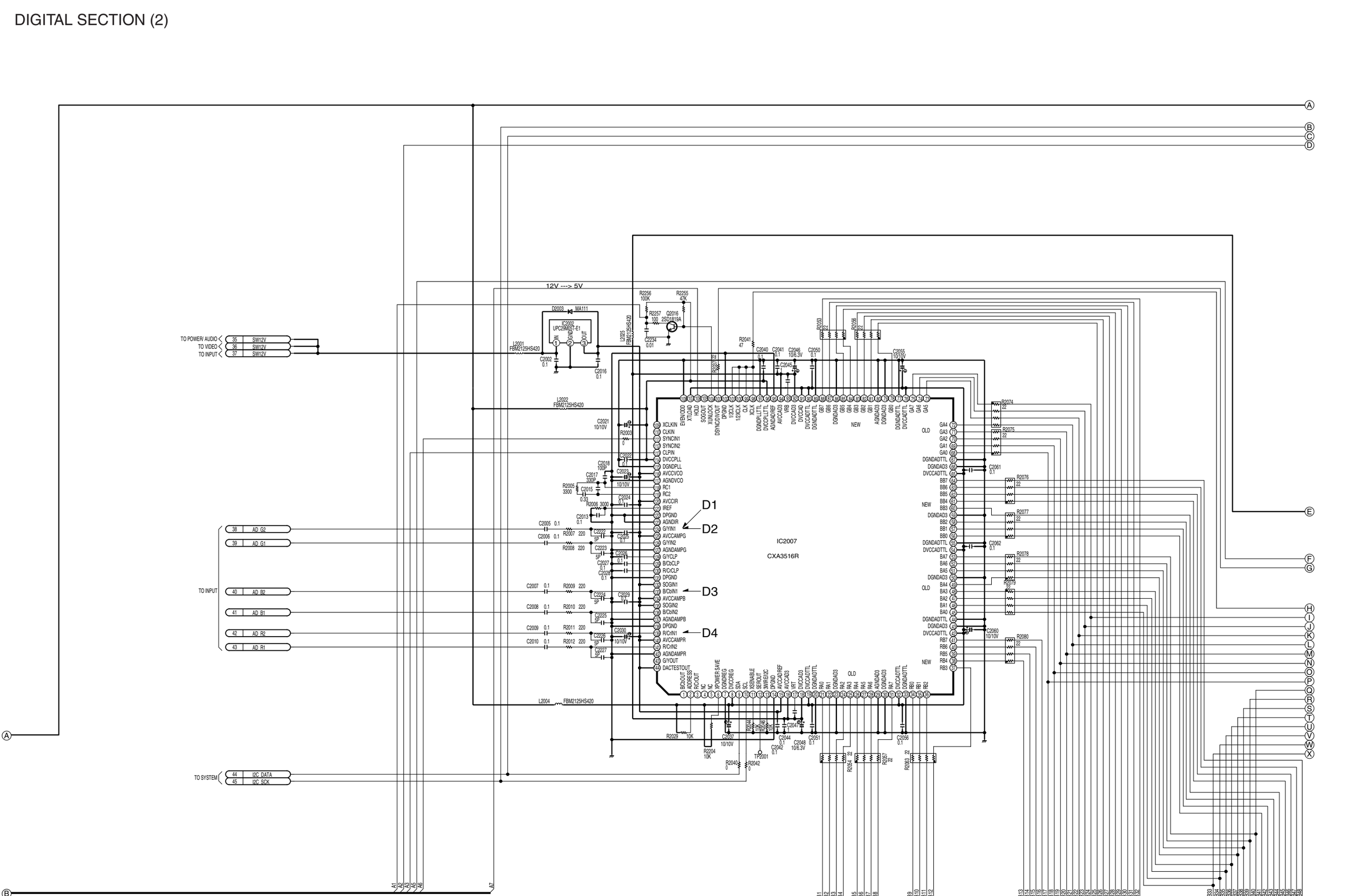
REF.NO.1900 SERIES (R1902 IS ABBREVIATED TO R2)
REF.NO.2000 SERIES (R2002 IS ABBREVIATED TO R2)
REF.NO.3000 SERIES (R3002 IS ABBREVIATED TO R2)
REF.NO.3500 SERIES (R3502 IS ABBREVIATED TO R2)
REF.NO.4000 SERIES (R4002 IS ABBREVIATED TO R2)
REF.NO.5000 SERIES (R5002 IS ABBREVIATED TO R2)
REF.NO.6000 SERIES (R6002 IS ABBREVIATED TO R2)
REF.NO.6600 SERIES (R6602 IS ABBREVIATED TO R2)

(QUADRUPLE PATTERNS)

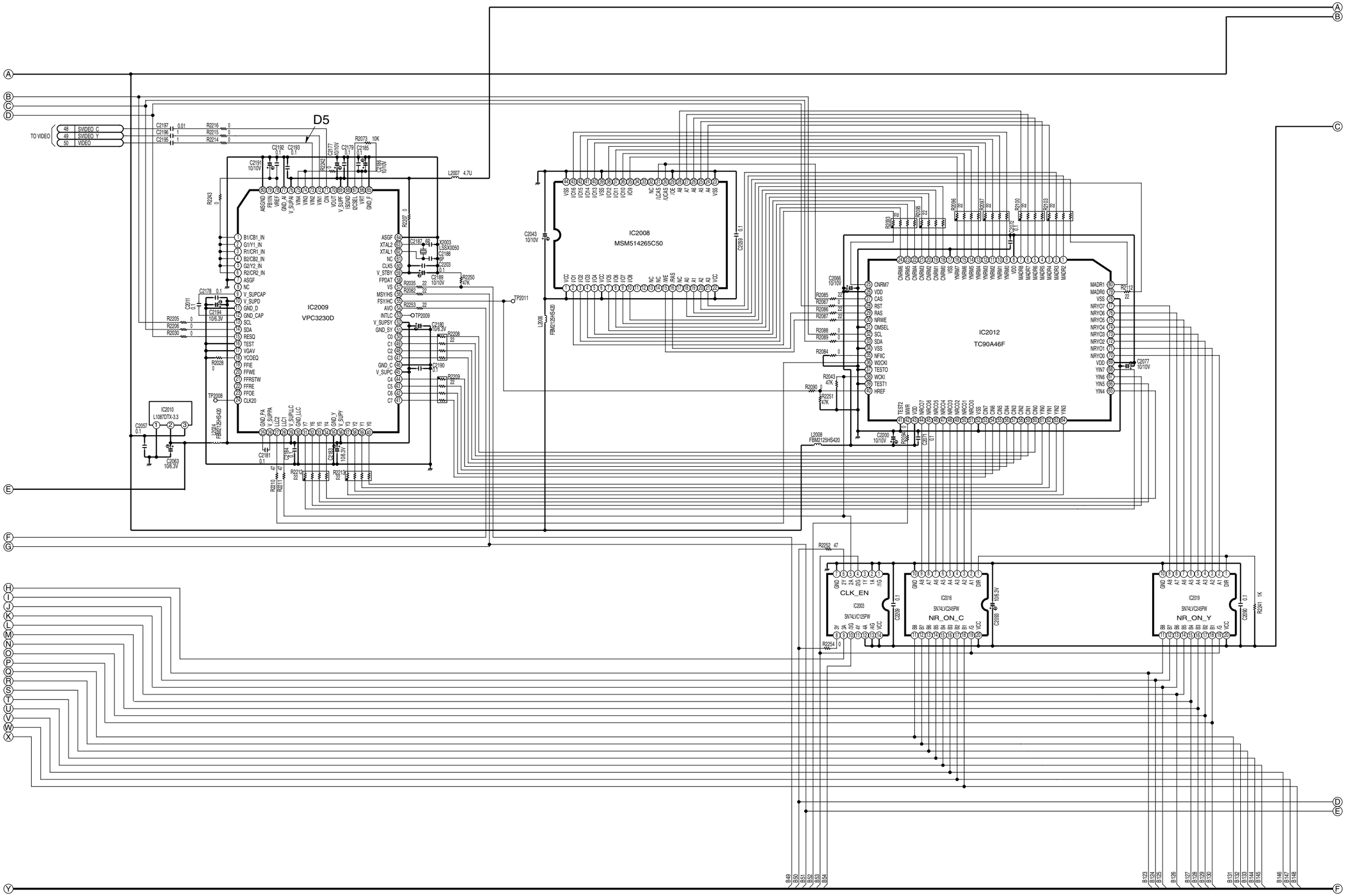
DIGITAL SECTION (1)



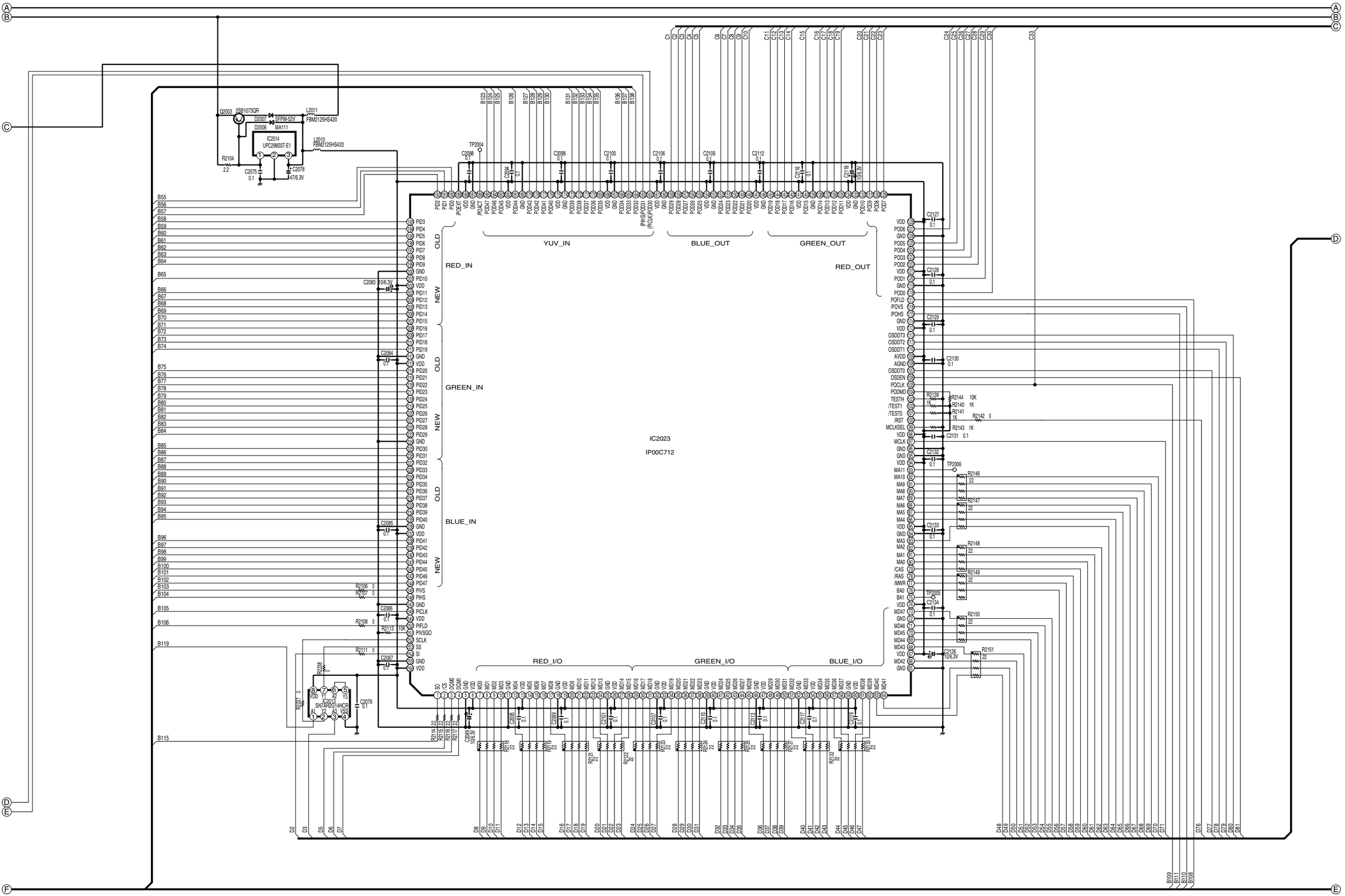
DIGITAL SECTION (2)



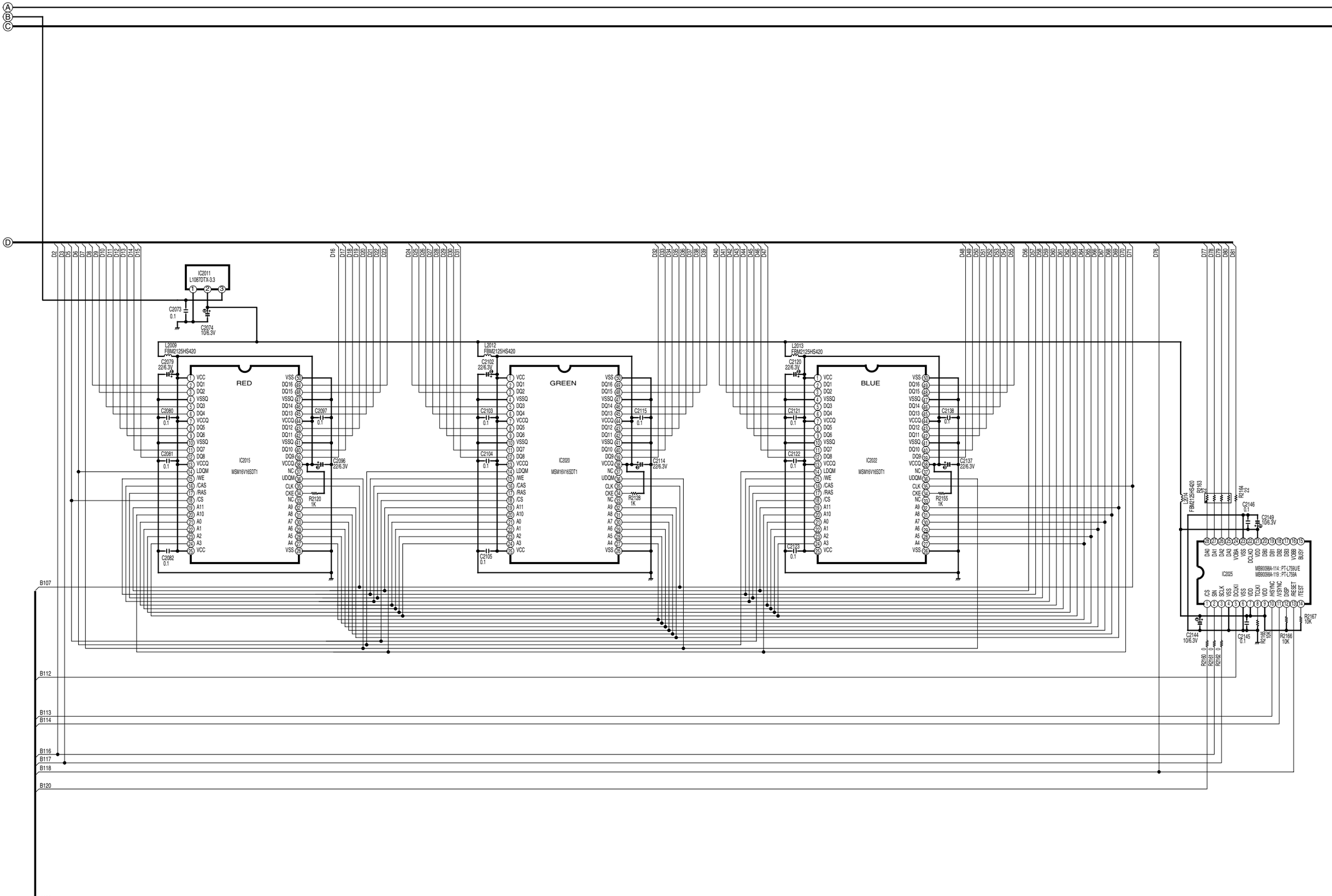
DIGITAL SECTION (3)



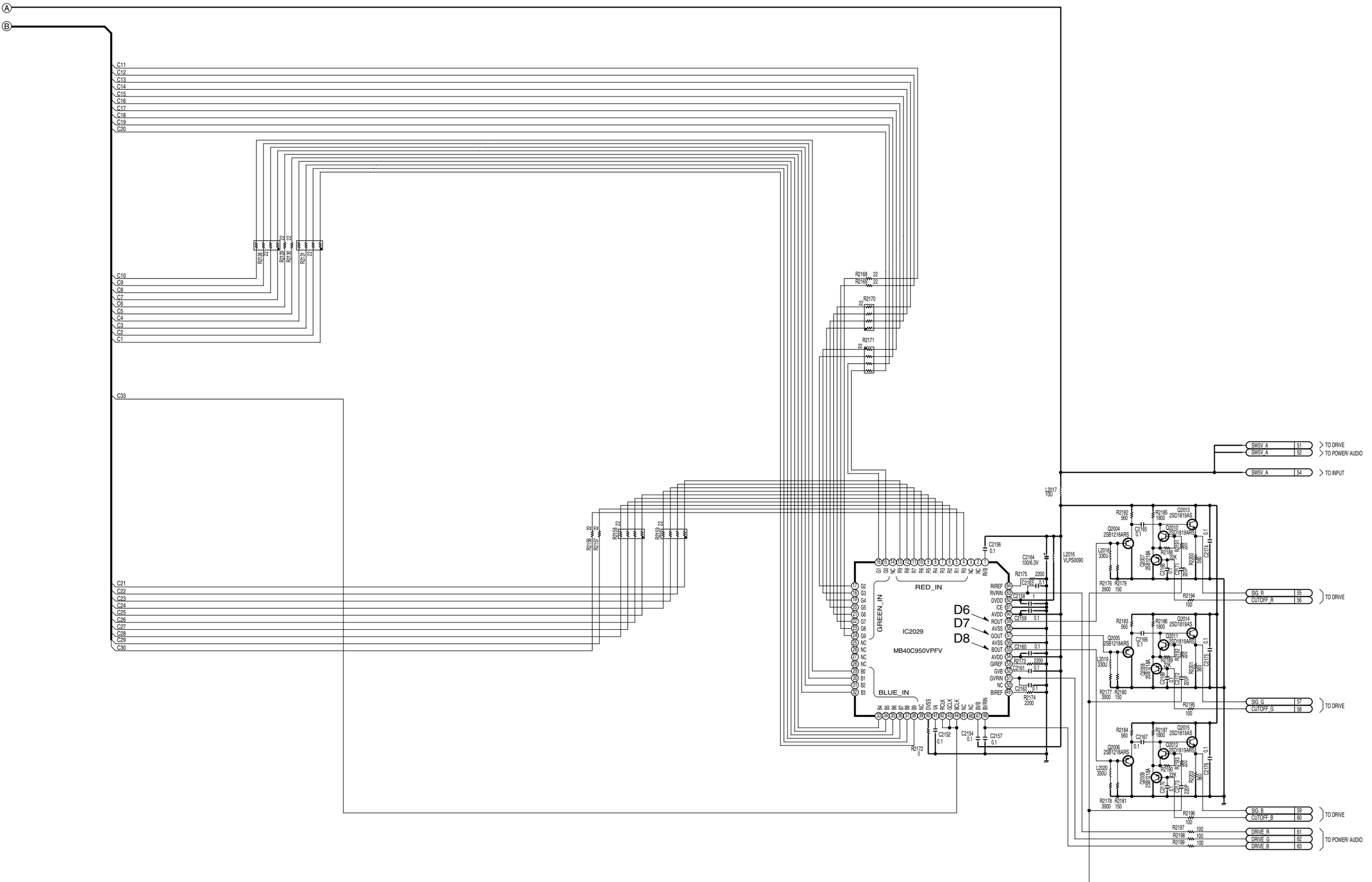
DIGITAL SECTION (4)



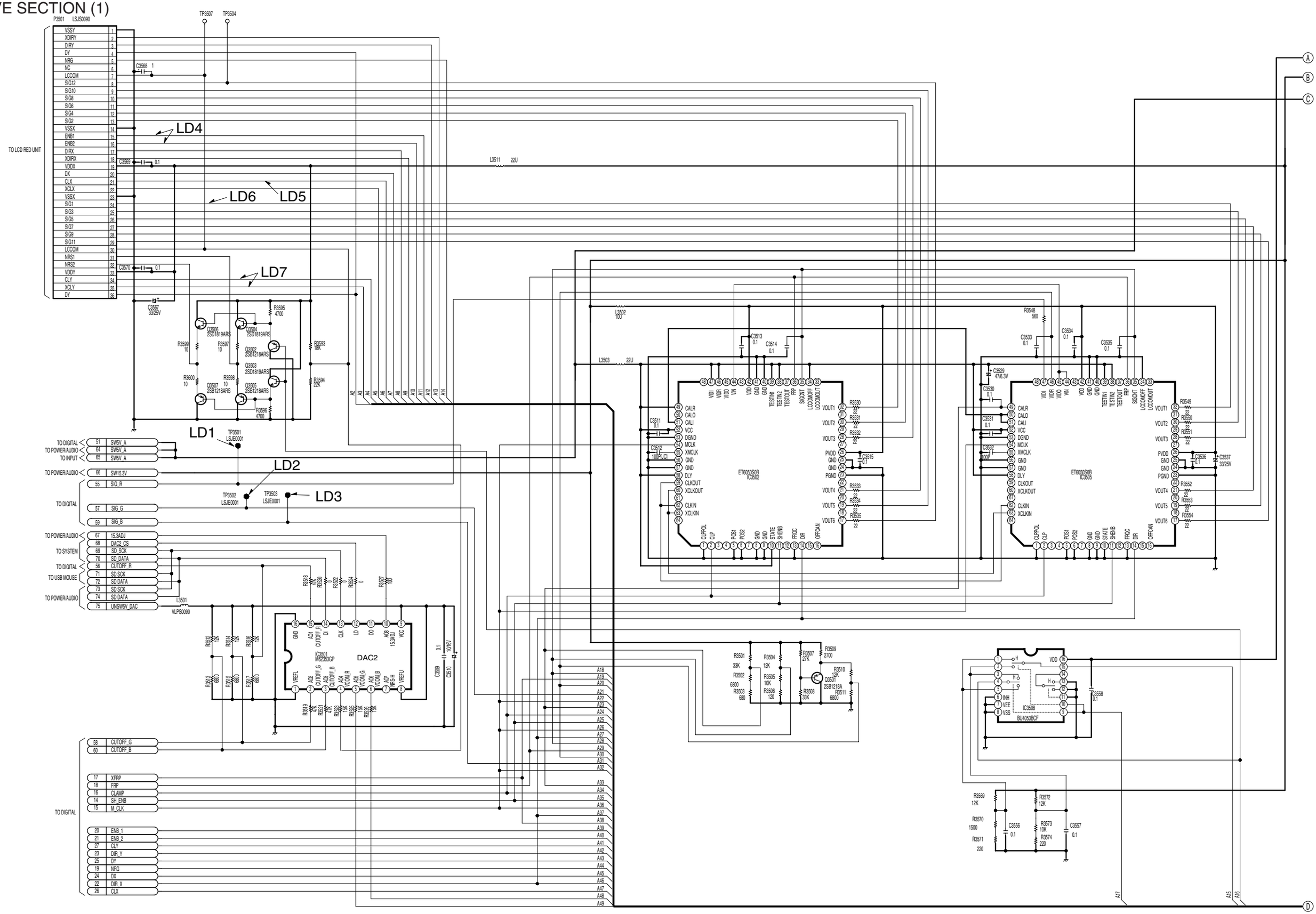
DIGITAL SECTION (5)



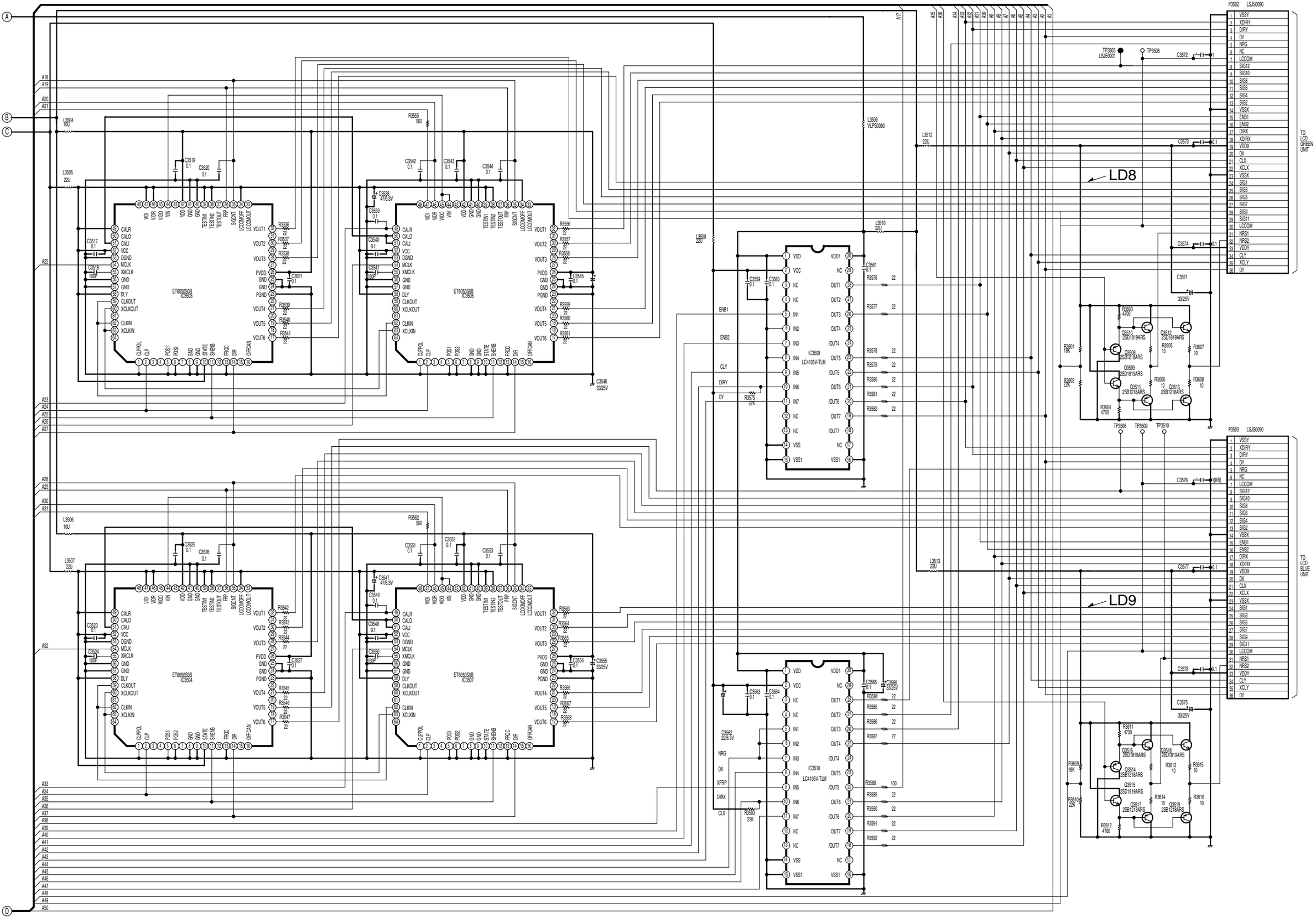
DIGITAL SECTION (6)



DRIVE SECTION (1)

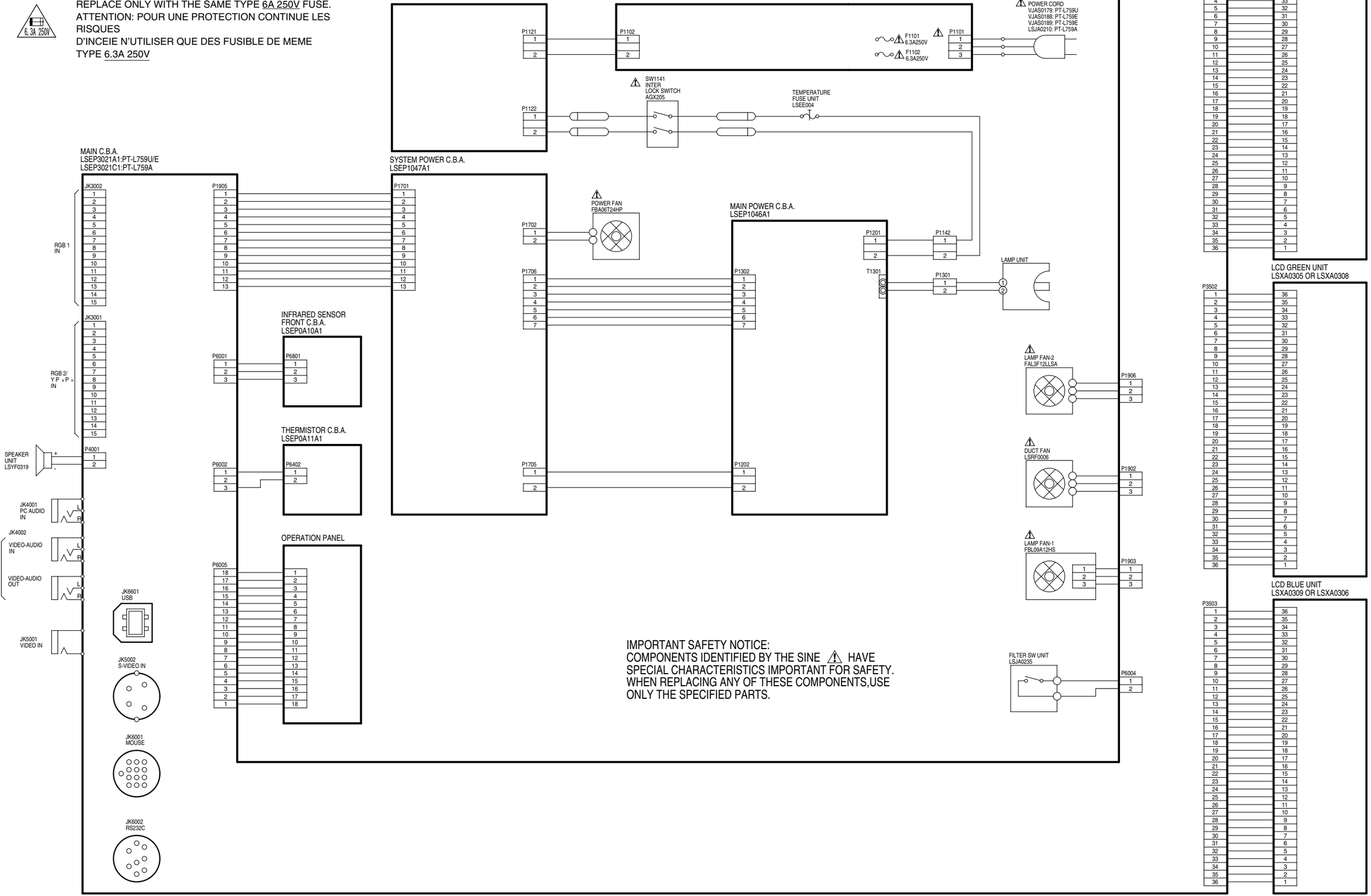


DRIVE SECTION (2)



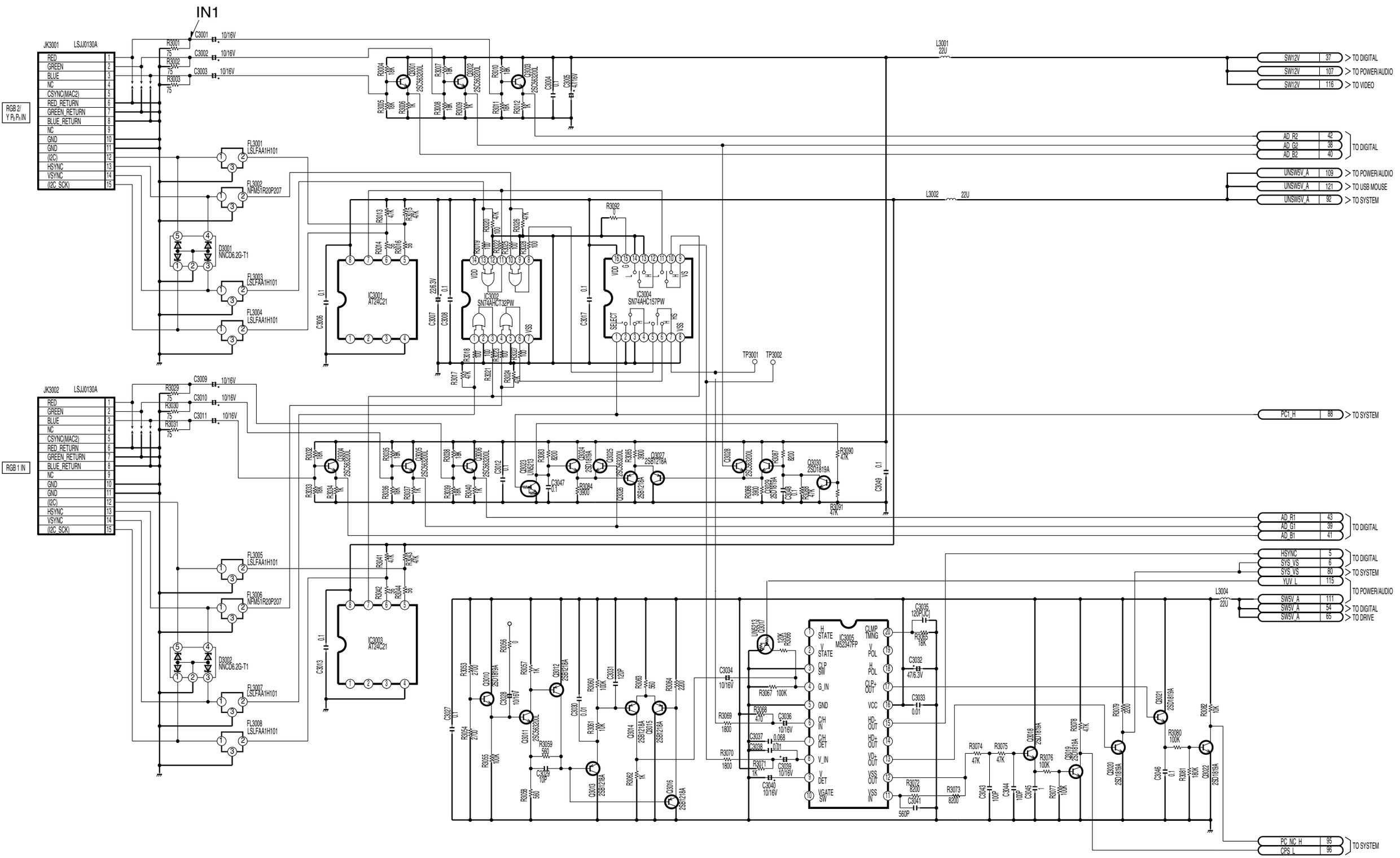
INTERCONNECTION

CAUTION : FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH THE SAME TYPE 6A 250V FUSE.
ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQUES
D'INCEIE N'UTILISER QUE DES FUSIBLE DE MEME TYPE 6.3A 250V



IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SINE ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS,USE ONLY THE SPECIFIED PARTS.

INPUT SECTION



POWER/AUDIO SECTION

P1905 LSJSPC13F
UNSW16V 1
UNSW 13.5V(FAN) 2
UNSW13.5V(SIG) 3
UNSW5V(ANA) 4
UNSW5V(DIG) 5
UNSW5V(DIG) 6
GND(ANA) 7
GND(DIG) 8
GND(DIG) 9
GND(FAN) 10
FAN_ON_L 11
L_ON_H 12
L_ERR 13

TO SYSTEM POWER C.B.A.

TP1907 LSJE0001

[SHASSIS]

TO SYSTEM
86 L_ON_H
106 L_ERR

PR1904 ICP-S1.8
PR1903 ICP-S1.2
PR1905 ICP-S1.8
PR1902 ICP-S2.3

C1902 33/25V
C1906 0.1
TP1911
R1904 4700
R1905 4700
R1906 15K
R1908 15K
Q1906 2SB1218ARS
Q1902 2SD1819ARS

IC1902 PQ12DZ1U
C1901 47/16V
C1905 0.1
R1910 22K
R1912 15K
C1909 10/16V
TP1901
R1951 0

C1903 100/6.3V
C1907 0.1
C1904 100/6.3V
C1908 0.1

R1903 4700
Q1901 2SD1819A
R1902 10K
R1901 10K

Q1904 2SK2839TE16L
R1911 2200
C1910 10/25V
R1913 47K
TP1902

Q1905 2SK2839TE16L
R1909 2200
C1911 10/25V
R1914 47K
TP1903

POWER ON H FROM MCON
SW 12V
UNSW 5V ANALOG
SW 5V ANALOG
SW 5V DIGITAL
UNSW 13.5V

IC1901 PQ20VZ1U
TP1912
C1912 0.1
R1915 2700
R1916 15K
R1917 12K
R1918 1K
R4035 27K
TP1904 LSJE0001
TP1908
C1914 10/25V
C1915 0.1
SW 15.3V VIDEO

P1902 LSJSPC03F
FAN1 +B 1
FAN_GND 2
FAN1_LOCK 3

TO DUCT FAN

R1977 0

P1903 LSJSME04E
FAN2 +B 1
FAN_GND 2
FAN2_LOCK 3
N.C 4

TO LAMP FAN-1

P1906 LSJSME03E
FAN4 +B 1
FAN_GND 2
FAN4_LOCK 3

TO LAMP FAN-2

R1975 6800
R1974 6800
R1973 6800
D1962 MA111
D1961 MA142WK
TP1910
R1978 47K

TO SYSTEM
103 FAN_LOCK_H

IC1961 PQ20VZ1U
TP1913
TP1961
C1961 47/16V
R1961 2700
R1962 15K
R1963 10K
R1965 1K
C1962 47/16V
R1966 6800
FAN1_SD_CTL

IC1962 PQ20VZ1U
TP1914
TP1962
C1963 47/16V
R1967 2700
R1968 15K
R1969 10K
R1979 0
R1971 1K
C1964 47/16V
R1972 6800
FAN2_SD_CTL

TO SYSTEM
105 FAN1_ON_H
104 FAN2_ON_H

IC4003 AN78L05M-E1
C4022 0.1
C4023 .01
C4031 476.3V

IC4004 M62353GP
DAC1
R4068
R4070
R4072
R4076 18K
R4078 12K
R4080 12K
R4082 12K
R4079 4700
R4081 4700
R4083 4700
C4035 0.1
C4036 0.1
R4067 100
R4069 100
R4071 1K
R4075 18K
R4077 18K

JK4002 LSJJ0132
VIDEO_AUDIO_IN
AUDIO_OUT
JK4001 LSJJ0131
PC-AUDIO_IN

FL4001 LSLFAA1H102
FL4002 LSLFAA1H102
FL4003 LSLFAA1H102
FL4004 LSLFAA1H102
FL4005 LSLFAA1H102
FL4006 LSLFAA1H102
D4001 NNCD6.2F-T1B
D4002 NNCD6.2F-T1B
D4003 NNCD6.2F-T1B
D4004 NNCD6.2F-T1B
D4005 NNCD6.2F-T1B
D4006 NNCD6.2F-T1B

C4001 R4001 330K R4004 330K R4005 330K R4010 4700 Q4001 2SD1819A
C4004 R4016 330K R4017 330K R4022 330K R4023 4700 Q4004 2SD1819A
C4003 R4003 330K R4008 330K R4009 330K R4012 4700 Q4003 2SD1819A
C4006 R4020 330K R4021 330K R4024 330K R4025 4700 Q4006 2SD1819A

C4007 10/6.3V
IC4001 BU9883BCF
VDD H+ H- H CLK DATA WH EE VSS

R4026 1K
C4044 10/16V
R4086 820
R4088 100
R4027 3900
Q4008 2SB1218A
R4084 47K
Q4019 2SD1819ARS
C4045 10/16V
R4087 820
R4089 100
R4085 47K
Q4020 2SD1819ARS
Q4007 2SB1218A
R4025 1K
Q4021 2SB1218A
R4091 100
D4011 MA111
R4092 2200
R4090 10K
R4028 3900
R4029 2700

L4001 270U
Q4009 2SD1819A
Q4022 2SD1819A
C4008 1
R4030 1K

R4031 220K
C4009 560P
R4033 560
R4034 10K
Q4011 2SB1219A
R4036 68K
R4038 68K
Q4012 2SD1819A
R4093 10K
R4094 10K
Q4013 2SD1819A
R4039 10K
R4040 220
C4010 100/16V
Q4014 2SB1218A
D4008 MA111
R4041 1K
Q4015 2SB1218A
C4011 2.2/50V
R4042 120K
R4043 120K
D4009MA111
D4010 MA8100
D4007 MA142WK

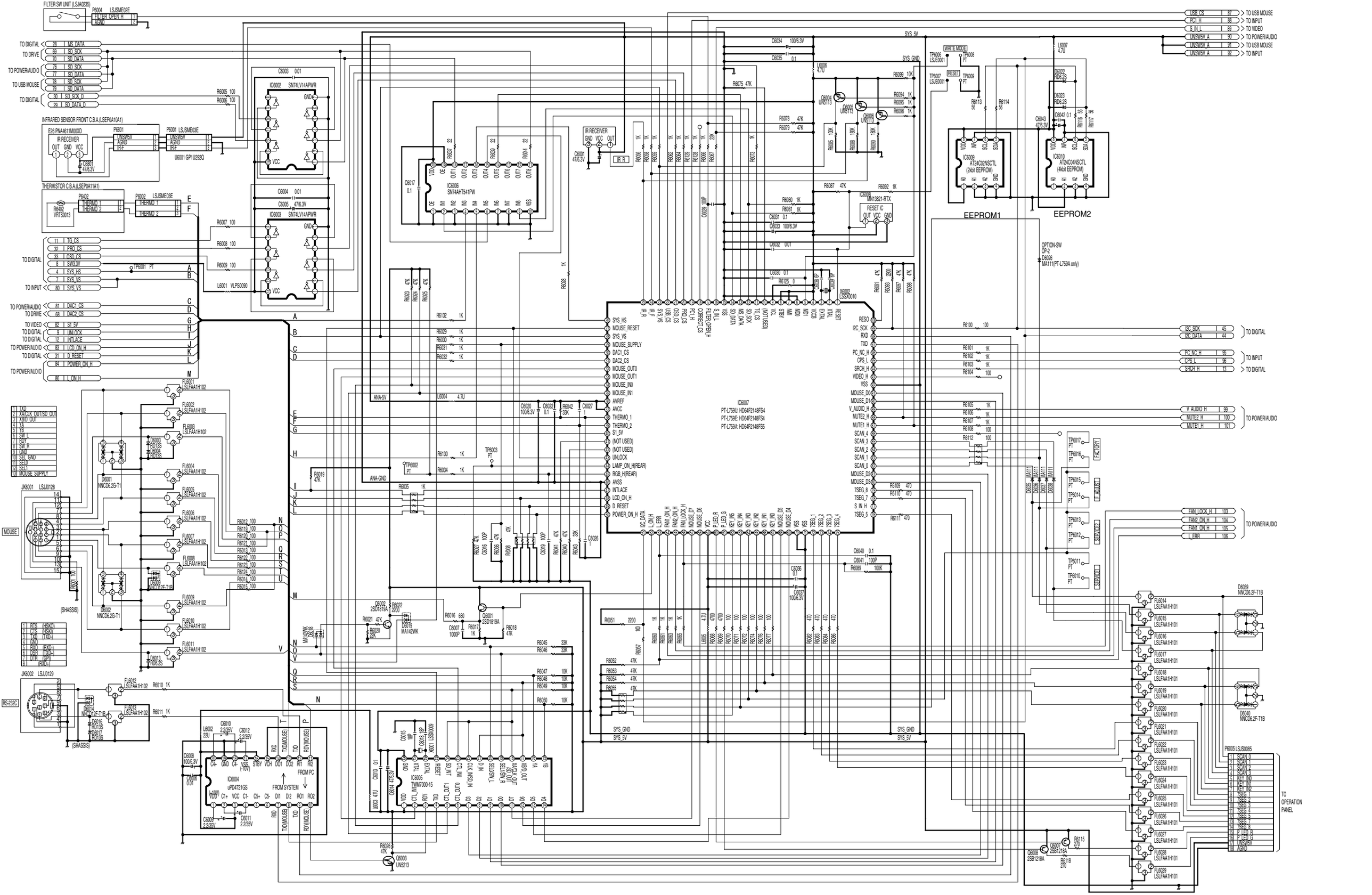
IC4002 AN5265
DC VOLUME CONTROL
OUTPUT AMP
VCC1 VCC2 GND
C4013
C4012 47/16V
C4014 10/16V
R4044 270
C4016 2SD1119
R4059 2.2
R4060 2.2
R4062 330
Q4017 UN5112
TP4001
C4020 100/16V
C4024 100/16V
Q4018 UN5213
C4018 100/25V
R4061
C4021
R4045 82K
R4046 82K
R4047 390
R4048 390
C4017 470/25V
C4019 470/16V
C4015 10/16V
R4050 10K
R4051 10K
C4026 10/16V
C4027 10/16V
C4028 10/16V
C4029 10/16V
C4030 10/16V
C4031 10/16V

P4001 LSJSPC02F
2 GND
1 AMP_OUT
SPEAKER UNIT (LSYFXXXX)

TO SYSTEM
86 L_ON_H
106 L_ERR
66 SW15.3V
35 SW12V
106 SW12V
67 15.5ADJ
83 LCD_ON_H
107 SW12V
90 UNSW5V_A
108 UNSW5V_A
109 UNSW5V_A
52 SW5V_A
64 SW5V_A
111 SW5V_A
10 SW5V_D
73 SD_SCK
74 SD_DATA
112 SD_SCK
113 SD_DATA
77 SD_DATA
76 SD_SCK
81 DAC1_CS
63 DRIVE_B
75 UNSW5V_DAC
62 DRIVE_G
61 DRIVE_R
115 YUV_L
99 V_AUDIO_H
101 MUTE1_H
100 MUTE2_H

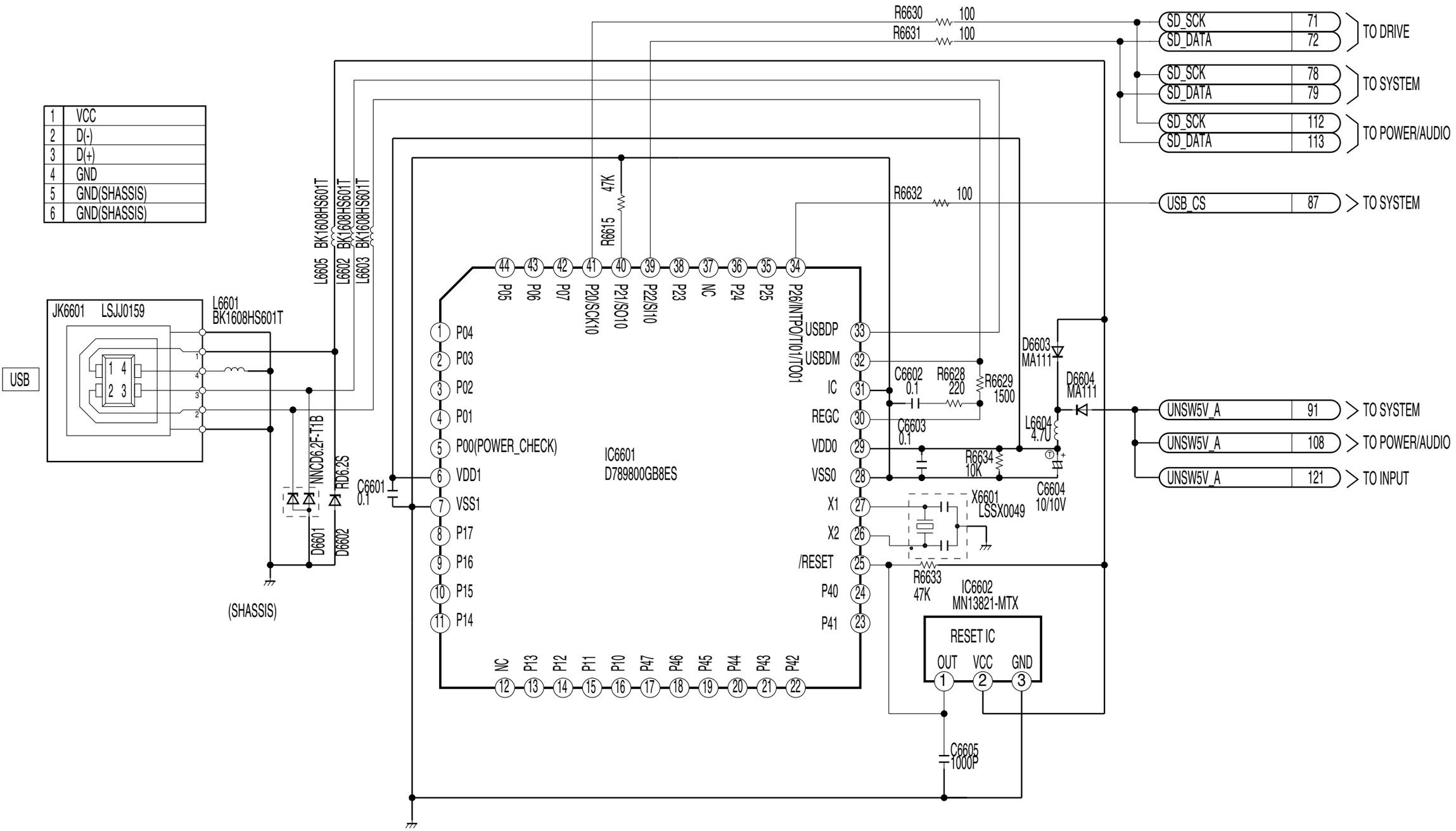
TO SYSTEM
TO DRIVE
TO DIGITAL
TO VIDEO
TO INPUT
TO USB MOUSE

SYSTEM SECTION

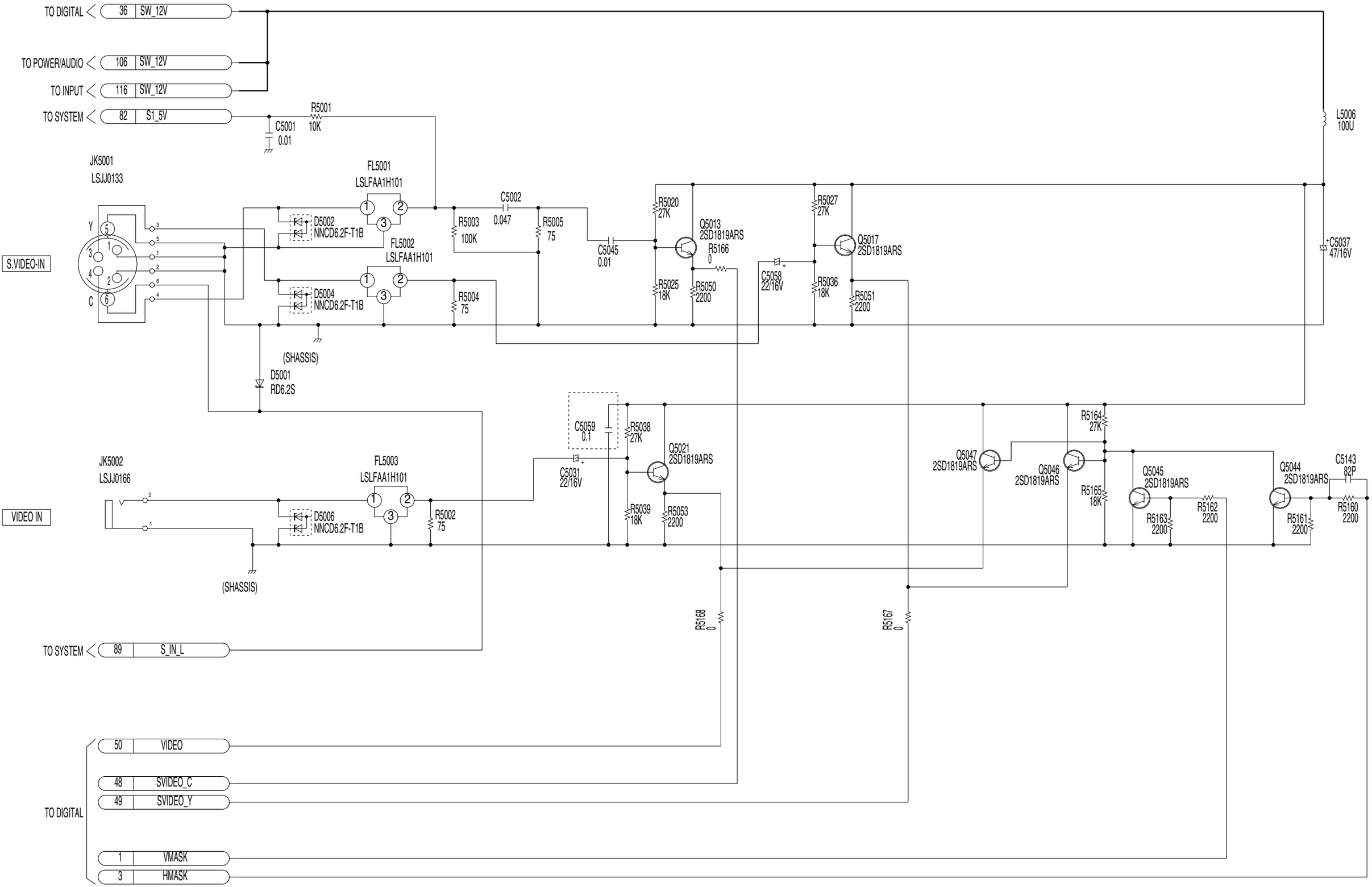


USB MOUSE SECTION

1	VCC
2	D(-)
3	D(+)
4	GND
5	GND(SHASSIS)
6	GND(SHASSIS)



VIDEO SECTION



PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE
IC2001		44	0	111	1.7	178	0.1	36	1.4	103	3.0	25	0	47	0	25	0	2	0	14	1.2	39	1.9
1	0	45	0	112	1.1	179	5.1	37	1.3	104	0.5	26	0	48	0.2	26	5.1	3	3.3	15	1.9	40	2.2
2	3.3	46	0	113	1.3	180	0	38	1.2	105	0.4	27	0	49	0.2	27	5.1	**IC2015**		16	0.9	41	0
3	5.1	47	3.3	114	1.7	181	3.9	39	1.1	106	0	28	0	50	0.2	28	3.9	1	3.3	17	1.0	42	2.7
IC2002		48	3.3	115	1.1	182	0	40	1.1	107	5.1	29	0	51	0	29	5.1	2	1.8	18	1.5	43	2.0
1	12.0	49	0	116	1.1	183	3.3	41	1.1	108	0	30	5.1	52	3.3	30	5.1	3	2.1	19	3.3	44	3.3
2	0	50	1.6	117	1.1	184	3.0	42	5.1	109	-	31	5.1	53	-	31	0	4	0	20	3.3	45	1.7
3	5.0	51	0	118	1.2	185	3.3	43	0	110	4.6	32	-	54	3.2	32	5.0	5	2.1	**IC2019**		46	1.5
IC2003		52	0	119	1.7	186	3.3	44	0	111	2.9	33	-	55	0	33	5.0	6	1.8	1	3.3	47	0
1	0	53	3.3	120	1.1	187	3.3	45	1.6	112	-	34	-	56	3.0	34	0	7	3.3	2	0	48	1.5
2	0	54	1.6	121	1.3	188	3.3	46	1.1	113	0.1	35	0.2	57	0	35	0	8	1.7	3	0	49	1.6
3	-	55	1.6	122	1.6	189	3.3	47	0.9	114	5.1	36	0.2	58	3.3	36	0.2	9	1.6	4	0	50	0
4	3.3	56	0	123	1.1	190	3.3	48	2.0	115	0	37	0.2	59	5.0	37	0	10	0	5	0	**IC2022**	
5	0	57	2.0	124	1.1	191	3.3	49	1.2	116	0	38	0.2	60	2.3	38	0	11	1.5	6	0	1	3.3
6	0	58	0	125	1.1	192	0	50	0	117	0	39	0	61	-	39	0	12	1.6	7	0	2	1.9
7	0	59	2.0	126	1.2	193	1.7	51	1.1	118	1.9	40	0.2	62	2.5	40	0	13	3.3	8	0	3	1.4
8	3.5	60	0	127	1.3	194	0	52	1.1	119	1.9	41	0.2	63	2.5	41	0	14	1.9	9	0	4	0
9	1.6	61	0	128	1.4	195	3.3	53	1.1	120	5.0	42	0.2	64	0	42	3.3	15	3.1	10	0	5	1.3
10	0	62	3.3	129	1.5	196	0.2	54	5.1	121	1.1	43	0.2	65	0	43	5.1	16	2.7	11	1.1	6	2.7
11	0.2	63	0	130	3.3	197	1.7	55	0	122	0	44	0	66	2.5	44	0	17	2.7	12	1.1	7	3.3
12	3.3	64	0	131	0	198	1.7	56	1.7	123	0	**IC2009**		67	2.5	45	0	18	3.0	13	1.1	8	1.7
13	3.3	65	0	132	1.7	199	0.2	57	1.1	124	3.2	1	2.6	68	0	46	0	19	0.5	14	1.2	9	1.6
14	3.3	66	0	133	1.1	200	0	58	0.9	125	5.0	2	2.6	69	5.0	47	0	20	2.9	15	1.6	10	0
IC2006		67	0	134	1.1	201	1.1	59	0	126	2.5	3	2.6	70	1.4	48	0	21	0.3	16	1.2	11	1.5
1	0	68	0	135	1.1	202	1.1	60	2.0	127	0	4	2.6	71	1.5	49	0	22	0.3	17	1.3	12	1.6
2	0	69	0	136	1.2	203	0	61	1.2	128	2.7	5	2.6	72	1.4	50	0	23	0.2	18	1.6	13	3.3
3	5.1	70	0	137	1.3	204	0	62	1.1	129	2.7	6	2.6	73	1.2	51	0	24	0.7	19	3.3	14	1.9
4	0.1	71	0	138	1.3	205	0	63	1.1	130	2.7	7	0	74	2.5	52	0	25	3.3	20	3.3	15	3.1
5	0	72	0	139	1.4	206	5.0	64	1.1	131	0	8	-	75	2.5	53	0.2	26	0	**IC2020**		16	2.7
6	1.7	73	0	140	1.6	207	0	65	5.1	132	5.0	9	3.3	76	5.0	54	0.2	27	1.4	1	3.3	17	2.7
7	0	74	0	141	0	208	3.3	66	0	133	3.2	10	3.3	77	0	55	0.2	28	1.4	2	1.9	18	3.0
8	1.7	75	0	142	0	**IC2007**		67	0	134	5.0	11	0	78	2.6	56	0.2	29	1.4	3	2.2	19	0.5
9	1.7	76	0	143	0	1	2.3	68	1.7	135	5.0	12	0	79	-	57	0	30	0.3	4	0	20	2.9
10	1.6	77	0	144	0	2	5.1	69	1.3	136	2.5	13	4.0	80	0	58	0.2	31	0.3	5	2.0	21	0.3
11	0	78	3.3	145	2.9	3	2.3	70	1.1	137	0	14	4.0	**IC2010**		59	0.2	32	0.3	6	2.0	22	0.3
12	0	79	0	146	0	4	-	71	1.7	138	0	15	3.9	1	0	60	0.2	33	-	7	3.3	23	0.2
13	3.3	80	0	147	3.3	5	-	72	1.2	139	3.2	16	0	2	3.3	61	0.2	34	3.3	8	1.7	24	0.7
14	3.3	81	0	148	0	6	5.0	73	1.1	140	5.0	17	0	3	5.1	62	0.2	35	1.7	9	1.6	25	3.3
15	3.3	82	0	149	0.1	7	0	74	1.1	141	2.5	18	0	**IC2011**		63	0	36	1.9	10	0	26	0
16	3.0	83	0	150	0	8	5.1	75		142	0	19	-	1	0	64	0.2	37	-	11	1.5	27	1.4
17	0	84	0	151	0	9	4.5	76	5.1	143	2.3	20	-	2	3.3	65	0.2	38	3.3	12	1.6	28	1.4
18	1.8	85	1.1	152	2.9	10	4.5	77	0	144	5.0	21	-	3	5.1	66	0.2	39	1.9	13	3.3	29	1.4
19	0	86	1.1	153	4.3	11	0	78	1.8	**IC2008**		22	-	**IC2012**		67	0.2	40	2.0	14	1.9	30	0.3
20	3.3	87	1.1	154	4.8	12	0	79	0	1	5.1	23	-	1	0	68	0.2	41	0	15	3.1	31	0.3
21	0	88	1.2	155	0	13	0.1	80	0	2	0	24	1.9	2	5.1	69	5.1	42	1.9	16	2.7	32	0.3
22	0	89	1.9	156	0	14	0	81	1.4	3	0.2	25	0	3	5.1	70	0	43	2.2	17	2.7	33	3.3
23	1.7	90	0.9	157	3.3	15	5.0	82	1.2	4	0.2	26	3.3	4	0	71	0	44	3.3	18	3.0	34	1.7
24	1.7	91	1.1	158	1.6	16	3.3	83	1.7	5	0.2	27	0.2	5	0	72	0	45	1.7	19	0.5	35	1.7
25	0	92	1.6	159	1.6	17	2.8	84	1.2	6	5.1	28	0	6	5.1	73	0	46	1.5	20	3.0	36	1.9
26	0	93	1.1	160	0	18	3.3	85	1.1	7	0.2	29	0	7	5.1	74	0	47	0	21	0.3	37	-
27	3.3	94	1.1	161	1.7	19	5.1	86	0	8	0.2	30	0	8	5.1	75	0	48	1.5	22	0.3	38	3.3
28	3.0	95	1.1	162	0	20	0	87	1.1	9	0.2	31	0.2	9	0.2	76	0	49	1.6	23	0.2	39	2.0
29	0	96	1.2	163	1.7	21	1.7	88	1.1	10	0.2	32	0.2	10	0.2	77	0	50	0	24	0.7	40	1.7
30	3.0	97	2.0	164	0	22	1.4	89	0	11	-	33	0.2	11	0.2	78	0	**IC2016**		25	3.3	41	0
31	0	98	0.8	165	0	23	0	90	5.1	12	-	34	0.2	12	0.2	79	0	1	3.3	26	0	42	1.6
32	3.3	99	1.1	166	0	24	1.4	91	5.1	13	-	35	0	13	0.2	80	0	2	0	27	1.4	43	2.5
33	0	100	1.6	167	0	25	1.4	92	3.3	14	-	36	3.3	14	0.2	**IC2013**		3	0	28	1.4	44	3.3
34	2.8	101	3.0	168	3.3	26	1.2	93	1.8	15	5.1	37	0.2	15	0.2	1	1.6	4	0	29	1.5	45	1.7
35	0	102	0	169	3.3	27	1.1	94	3.3	16	5.1	38	0.2	16	0.2	2	3.3	5	0	30	0.3	46	1.5
36	0	103	3.5	170	0	28	1.1	95	0	17	-	39	0.2	17	0	3	3.2	6	0	31	0.3	47	0
37	3.3	104	3.3	171	0	29	0	96	5.1	18	0	40	0.2	18	0.2	4	0	7	0	32	0.3	48	1.5
38	3.3	105	0	172	0	30	0	97	0	19	0	41	0.2	19	0.2	5	0.7	8	0	33	-	49	1.6
39	3.3	106	0	173	0	31	1.1	98	1.8	20	0	42	0.2	20	0.2	6	0	9	0	34	3.3	50	0
40	0	107	1.1	174	3.3	32	5.1	99	1.8	21	0	43	0.2	21	0.2	7	0	10	0	35	1.7		
41	3.3	108	1.1	175	0	33	0	100	1.8	22	5.1	44	0.2	22	0.2	8	3.3	11	1.1	36	1.9		
42	0	109	1.1	176	3.0	34	1.6	101	1.8	23	0	45	3.3	23	0.2	**IC2014**		12	1.1	37	-		
43	0	110	1.2	177	2.0	35	1.4	102	0	24	0	46	0	24	0.2	1	4.4	13	1.1	38	3.3		

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IC2023		36	1.6	72	0	108	0	144	0.9	180	0	216	1.1	252	3.0	2	-	38	1.7	9	0	C	3.1
1	0.1	37	1.5	73	1.7	109	3.3	145	1.7	181	1.2	217	1.1	253	3.3	3	-	39	-	10	3.3	B	2.3
2	3.1	38	0	74	3.3	110	0	146	0	182	3.3	218	1.7	254	1.0	4	1.1	40	0	11	0	**Q2011**	
3	1.9	39	0	75	0	111	0	147	3.3	183	3.3	219	1.4	255	0	5	1.2	41	1.5	12	3.3	E	2.5
4	1.9	40	3.3	76	0.5	112	0	148	1.4	184	1.1	220	1.3	256	3.3	6	1.3	42	1.7	13	0	C	3.1
5	0	41	1.8	77	3.1	113	3.3	149	1.0	185	1.1	221	1.5	**IC2025**		7	1.7	43	1.7	14	3.3	B	2.2
6	3.3	42	2.0	78	2.7	114	0	150	1.6	186	0.9	222	1.2	1	2.8	8	0.5	44	1.7	**Q2003**		**Q2012**	
7	1.8	43	1.9	79	2.7	115	3	151	1.6	187	0	223	1.1	2	2.0	9	1.1	45	-	E	5.1	E	2.5
8	2.0	44	2.1	80	0.3	116	0	152	0.6	188	3.3	224	0	3	3.1	10	1.1	46	-	C	4.1	C	3.1
9	2.1	45	1.7	81	0.3	117	3	153	0	189	0	225	1.1	4	0	11	1.0	47	3.5	B	4.4	B	2.2
10	1.8	46	0	82	0.2	118	0.9	154	3.3	190	1.6	226	1.1	5	1.7	12	0.9	48	1.4	**Q2004**		**Q2013**	
11	0	47	3.3	83	0.7	119	0	155	1.1	191	1.3	227	1.6	6	0	13	1.7	49	1.4	E	1.3	E	2.5
12	1.7	48	1.5	84	0	120	1.3	156	1.1	192	1.4	228	1.1	7	3.3	14	-	50	-	C	0	C	5.0
13	3.3	49	1.5	85	3.3	121	3.3	157	1.0	193	0	229	0.9	8	0	15	1.4	51	1.4	B	0.6	B	3.1
14	1.5	50	1.6	86	1.4	122	1.4	158	0.9	194	1.2	230	1.9	9	3.3	16	1.1	52	3.5	**Q2005**		**Q2014**	
15	1.5	51	1.8	87	1.4	123	1.9	159	1.7	195	1.1	231	1.2	10	3.0	17	1.5	53	1.4	E	1.3	E	2.5
16	1.6	52	0	88	1.5	124	0.6	160	0	196	0	232	1.1	11	3.3	18	1.6	54	5.0	C	0	C	5.0
17	1.8	53	1.6	89	0.3	125	1.2	161	3.3	197	0	233	1.1	12	3.3	19	0.6	55	0.6	B	0.6	B	3.1
18	0	54	3.3	90	0.3	126	0	162	2.8	198	1.7	234	1.1	13	3.9	20	1.1	56	0	**Q2006**		**Q2015**	
19	3.3	55	1.5	91	0.3	127	1.0	163	3.0	199	1.4	235	1.6	14	3.3	21	1.1	57	0.6	E	1.3	E	2.5
20	2.0	56	2.6	92	3.0	128	3.3	164	1.6	200	0	236	0	15	0	22	1.0	58	0	C	0	C	5.0
21	2.1	57	1.7	93	0	129	1.0	165	1.1	201	1.4	237	3.3	16	0	23	0.8	59	0.6	B	0.6	B	3.1
22	1.8	58	1.6	94	3.3	130	0.9	166	1.0	202	0	238	1.1	17	0	24	1.7	60	5.0	**Q2007**		**Q2016**	
23	1.7	59	0	95	0	131	1.7	167	0	203	1.3	239	1.0	18	0	25	-	61	0	E	2.6	E	0
24	1.5	60	3.3	96	0	132	1.2	168	3.3	204	1.2	240	1.8	19	0	26	-	62	5.0	C	0	C	0
25	0	61	1.5	97	1.6	133	0	169	3.3	205	1.1	241	1.2	20	0	27	-	63	1.4	B	1.9	B	0.5
26	3.3	62	1.6	98	3.3	134	3.3	170	1.2	206	0	242	1.1	21	3.3	28	-	64	1.4	**Q2008**		**TP2001**	0
27	1.5	63	1.8	99	0	135	1.2	171	1.1	207	1.1	243	1.1	22	0	29	1.4	**IC2033**		E	2.5	**TP2002**	3.0
28	1.6	64	1.6	100	3.9	136	1.4	172	1.1	208	1.6	244	1.1	23	0	30	1.1	1	3.9	C	0	**TP2003**	3.3
29	0	65	0	101	0	137	1.7	173	1.1	209	1.4	245	3.3	24	0	31	1.6	2	0	B	1.9	**TP2004**	0.9
30	1.6	66	1.8	102	0	138	0.5	174	0	210	1.2	246	3.0	25	0	32	1.7	3	0	**Q2009**		**TP2005**	0
31	1.9	67	3.3	103	0	139	0	175	3.3	211	1.5	247	0	26	0	33	0.7	4	3.3	E	2.5	**TP2006**	0
32	0	68	2.3	104	3.3	140	1.1	176	1.6	212	0	248	4.1	27	0	34	1.1	5	0	C	0	**TP2008**	1.9
33	3.3	69	1.7	105	0	141	3.3	177	1.4	213	3.3	249	3.3	28	0	35	1.1	6	3.3	B	1.9	**TP2009**	-
34	2.0	70	1.5	106	0	142	1.1	178	1.3	214	1.2	250	3.3	**IC2029**		36	1.0	7	0	**Q2010**		**TP2011**	0
35	1.7	71	1.5	107	0	143	1.0	179	1.4	215	1.1	251	0	1	3.5	37	0.8	8	3.3	E	2.6		

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IC3501		40	0	32	7.0	24	0	16	1.3	8	0	**IC3507**		57	0	1	15.2	27	7.0	10	7.0	C	0
1	0	41	0	33	5.5	25	0	17	7.0	9	0	1	0	58	4.9	2	5.1	28	7.0	11	7.0	B	4.4
2	3.2	42	15.1	34	5.0	26	15.1	18	-	10	0	2	0.2	59	3.4	3	-	29	7.0	12	7.0	**Q3509**	
3	2.9	43	-	35	5.0	27	-	19	7.0	11	3.0	3	-	60	3.4	4	-	30	7.0	13	7.0	E	4.0
4	2.7	44	7.0	36	1.7	28	7.0	20	-	12	-	4	-	61	-	5	0.2	31	4.5	14	0	C	15.3
5	2.5	45	7.0	37	7.0	29	-	21	7.0	13	0	5	0	62	3.4	6	0.2	32	4.5	15	5.5	B	4.4
6	2.8	46	4.9	38	4.9	30	7.0	22	-	14	5.0	6	0	63	3.4	7	0.2	33	15.3	16	5.5	**Q3510**	
7	2.5	47	4.9	39	4.9	31	-	23	0	15	-	7	-	64	-	8	0.1	34	7.6	17	0	E	4.5
8	5.0	48	-	40	0	32	7.0	24	0	16	1.3	8	0	**IC3508**		9	1.7	35	7.6	18	15.2	C	15.3
9	5.0	49	4.9	41	0	33	5.5	25	0	17	7.0	9	0	1	2.0	10	5.0	36	0	19	15.3	B	5.1
10	3.5	50	7.0	42	15.1	34	4.9	26	15.1	18	-	10	0	2	7.0	11	1.7	**P3502**		20	0.3	**Q3511**	
11	3.3	51	7.0	43	-	35	7.0	27	-	19	7.0	11	3.0	3	7.0	12	-	1	0	21	8.0	E	4.5
12	0	52	4.9	44	7.0	36	1.7	28	7.0	20	-	12	-	4	4.4	13	-	2	0	22	7.5	C	0
13	4.6	53	0	45	7.0	37	7.0	29	-	21	7.0	13	0	5	2.0	14	0	3	15.2	23	0	B	4.0
14	2.7	54	1.7	46	4.9	38	4.9	30	7.0	22	-	14	5.0	6	0	15	0	4	0	24	7.0	**Q3512**	
15	3.1	55	1.5	47	4.9	39	4.9	31	-	23	0	15	-	7	0	16	0	5	1.1	25	7.0	E	4.6
16	0	56	0	48	-	40	0	32	7.0	24	0	16	1.3	8	0	17	-	6	-	26	7.0	C	15.3
IC3502		57	0	49	4.9	41	0	33	7.0	25	0	17	7.0	9	7.6	18	7.6	7	6.0	27	7.0	B	5.1
1	0	58	4.9	50	7.0	42	15.1	34	0	26	15.1	18	-	10	7.6	19	8.1	8	7.0	28	7.0	**Q3513**	
2	0.21	59	3.4	51	7.0	43	-	35	7.0	27	-	19	7.0	11	0	20	0	9	7.0	29	7.0	E	4.6
3	-	60	3.4	52	4.9	44	7.0	36	1.7	28	7.0	20	-	12	0	21	15.2	10	7.0	30	6.1	C	0
4	-	61	-	53	0	45	7.0	37	7.0	29	-	21	7.0	13	0	22	7.6	11	7.0	31	4.5	B	4.0
5	0	62	3.4	54	1.7	46	4.9	38	4.9	30	7.0	22	-	14	0	23	7.6	12	7.0	32	4.5	**Q3514**	
6	0	63	3.4	55	1.5	47	4.9	39	4.9	31	-	23	0	15	4.4	24	14.9	13	7.0	33	15.3	E	5.1
7	-	64	-	56	0	48	-	40	0	32	7.0	24	0	16	15.3	25	0.3	14	0	34	7.6	C	0
8	0	**IC3503**		57	0	49	4.9	41	0	33	7.0	25	0	**IC3509**		26	1.1	15	5.5	35	7.6	B	4.4
9	0	1	0	58	4.9	50	7.0	42	15.1	34	0	26	15.1	1	15.2	27	1.1	16	5.5	36	0	**Q3515**	
10	4.9	2	0.2	59	3.4	51	7.0	43	-	35	7.0	27	-	2	5.1	28	1.1	17	15.2	**Q3501**		E	3.9
11	3.0	3	-	60	3.4	52	4.9	44	7.0	36	1.7	28	7.0	3	-	29	-	18	0	E	9.1	C	15.3
12	-	4	-	61	-	53	0	45	7.0	37	7.0	29	-	4	-	30	15.2	19	15.3	C	0	B	4.4
13	0	5	0	62	3.4	54	1.7	46	3.3	38	4.9	30	7.0	5	1.1	**P3501**		20	0.3	B	8.5	**Q3516**	
14	5.0	6	0	63	3.4	55	1.5	47	2.5	39	4.9	31	-	6	0	1	0	21	8.0	**Q3502**		E	4.5
15	-	7	-	64	-	56	0	48	-	40	0	32	7.0	7	1.1	2	0	22	7.5	E	5.1	C	15.3
16	1.3	8	0	**IC3504**		57	0	49	2.8	41	0	33	7.0	8	0	3	15.2	23	0	C	0	B	5.1
17	7.0	9	0	1	0	58	4.9	50	7.0	42	15.1	34	0	9	1.6	4	0	24	7.0	B	4.4	**Q3517**	
18	-	10	4.9	2	0.2	59	3.4	51	7.0	43	-	35	7.0	10	5.1	5	1.1	25	7.0	**Q3503**		E	4.5
19	7.0	11	3.0	3	-	60	3.4	52	4.9	44	7.0	36	1.7	11	0	6	-	26	7.0	E	3.9	C	0
20	-	12	-	4	-	61	-	53	0	45	7.0	37	7.0	12	-	7	6.1	27	7.0	C	15.3	B	3.9
21	7.0	13	0	5	0	62	3.4	54	1.7	46	3.3	38	4.9	13	-	8	7.0	28	7.0	B	4.4	**Q3518**	
22	-	14	5.0	6	0	63	3.4	55	1.5	47	2.5	39	4.9	14	0	9	7.0	29	7.0	**Q3504**		E	4.5
23	0	15	-	7	-	64	-	56	0	48	-	40	0	15	0	10	7.0	30	6.0	E	4.5	C	15.3
24	0	16	1.3	8	0	**IC3505**		57	0	49	2.8	41	0	16	0	11	7.0	31	4.5	C	15.3	B	5.1
25	0	17	7.0	9	0	1	0	58	4.9	50	7.0	42	15.1	17	-	12	7.0	32	4.6	B	5.1	**Q3519**	
26	15.1	18	-	10	4.9	2	0.2	59	3.4	51	7.0	43	-	18	15.2	13	7.0	33	15.3	**Q3505**		E	4.5
27	-	19	7.0	11	3.0	3	-	60	3.4	52	4.9	44	7.0	19	0	14	0	34	7.6	E	4.5	C	0
28	7.0	20	-	12	-	4	-	61	-	53	0	45	7.0	20	0	15	5.5	35	7.6	C	0	B	3.9
29	-	21	7.0	13	0	5	0	62	3.4	54	1.7	46	3.3	21	15.2	16	5.5	36	0	B	3.9	**TP3501**	2.5
30	7.0	22	-	14	5.0	6	0	63	3.4	55	1.5	47	2.5	22	7.6	17	0	**P3503**		**Q3506**		**TP3502**	2.5
31	-	23	0	15	-	7	-	64	-	56	0	48	-	23	7.6	18	15.2	1	0	E	4.5	**TP3503**	2.5
32	7.0	24	0	16	1.3	8	0	**IC3506**		57	0	49	2.8	24	15.2	19	15.3	2	0	C	15.3	**TP3504**	7.0
33	5.5	25	0	17	7.0	9	0	1	0	58	4.9	50	7.0	25	0	20	0.3	3	15.2	B	5.1	**TP3505**	7.0
34	4.9	26	15.1	18	-	10	0	2	0.2	59	3.4	51	7.0	26	5.6	21	8.0	4	0	**Q3507**		**TP3506**	7.0
35	7.0	27	-	19	7.0	11	3.0	3	-	60	3.4	52	4.9	27	0	22	7.5	5	1.1	E	5.0	**TP3507**	6.1
36	1.7	28	7.0	20	-	12	-	4	-	61	-	53	0	28	5.6	23	0	6	-	C	0	**TP3508**	6.0
37	7.0	29	-	21	7.0	13	0	5	0	62	3.4	54	1.7	29	-	24	7.0	7	6.1	B	3.9	**TP3509**	6.1
38	4.9	30	7.0	22	-	14	5.0	6	0	63	3.4	55	1.5	30	15.2	25	7.0	8	7.0	**Q3508**		**TP3510**	4.5
39	4.9	31	-	23	0	15	-	7	-	64	-	56	0	**IC3510**		26	7.0	9	7.0	E	5.1		

PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE
IC3001		7	0	8	5.1	15	0	14	0.8	**Q3003**		**Q3010**		**Q3014**		**Q3018**		**Q3022**		**Q3026**		**Q3030**	
1	-	8	0.6	**IC3004**		16	5.1	15	4.4	E	5.0	E	2.5	E	3.6	E	1.0	E	0	E	4.9	E	0
2	0	9	0	1	0	**IC3005**		16	5.0	C	11.8	C	5.0	C	1.4	C	4.9	C	0	C	0	C	0
3	-	10	0.4	2	0	1	4.9	17	3.9	B	5.7	B	2.2	B	3.1	B	0.8	B	0.6	B	9.5	B	0.6
4	0	11	0	3	0	2	4.9	18	0	**Q3004**		**Q3011**		**Q3015**		**Q3019**		**Q3023**		**Q3027**		**TP3001**	0.7
5	0	12	0	4	0	3	0	19	0	E	4.9	E	1.6	E	3.6	E	0	E	0	E	4.9	**TP3002**	0.1
6	0	13	0	5	0.7	4	3.9	20	2.9	C	11.8	C	4.3	C	0	C	4.9	C	10.5	C	0		
7	0	14	5.2	6	0	5	0	**Q3001**		B	5.6	B	2.2	B	3.4	B	0.3	B	0	B	4.3		
8	5.1	**IC3003**		7	0.7	6	2.3	E	5.0	**Q3005**		**Q3012**		**Q3016**		**Q3020**		**Q3024**		**Q3028**			
IC3002		1	0	8	0	7	4.1	C	11.8	E	5.0	E	5.0	E	3.4	E	0	E	9.5	E	4.3		
1	0	2	0	9	0.1	8	2.3	B	5.7	C	11.8	C	2.8	C	0	C	4.8	C	11.8	C	11.8		
2	0	3	0	10	0	9	4.0	**Q3002**		B	5.7	B	4.3	B	2.8	B	0.2	B	10.2	B	5.0		
3	0	4	0	11	0	10	2.5	E	5.0	**Q3006**		**Q3013**		**Q3017**		**Q3021**		**Q3025**		**Q3029**			
4	0	5	5.1	12	0	11	0.8	C	11.8	E	5.0	E	2.8	E	0	E	4.3	E	9.5	E	4.3		
5	0	6	5.1	13	0	12	0.8	B	5.7	C	11.8	C	0	C	0	C	4.9	C	11.8	C	11.8		
6	0	7	0	14	0	13	0.2			B	5.7	B	2.8	B	4.9	B	0.4	B	5.0	B	0		

PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE
IC1901		1	14.4	5	5.2	C	0	**TP1908**	15.3	9	0	1	5.0	16	0	B	2.5	C	2.9	E	14.4	**Q4021**	
1	16.3	2	3.7	6	5.2	B	0.7	**TP1910**	0	10	0	2	0	**P4001**		**Q4007**		B	7.0	C	14.4	E	0
2	3.6	3	8.8	7	0	**Q1904**		**TP1911**	0.7	11	0	3	14.4	1	5.4	E	2.6	**Q4012**		B	15.0	C	0
3	15.3	4	1.3	8	0	G	15.6	**TP1912**	3.6	12	1.9	**IC4004**		2	0	C	0	E	2.9	**Q4017**		B	0
4	1.2	5	0	9	0	D	5.2	**TP1913**	3.4	13	2.0	1	0	**Q4001**		B	1.9	C	0	E	16.3	**Q4022**	
5	0	**P1902**		10	0	S	5.1	**TP1914**	3.7	14	1.9	2	3.3	E	1.9	**Q4008**		B	-0.3	C	16.3	E	0
IC1902		1	10.8	11	0	**Q1905**		**TP1915**		15	0	3	4.7	C	5.0	E	2.6	**Q4013**		B	0	C	5.1
1	14.4	2	0	12	1.1	G	15.6	**TP1961**	10.8	16	5.0	4	5.0	B	2.5	C	0	E	0	**Q4018**		B	0
2	4.7	3	0	13	5.1	D	5.1	**TP1962**	8.8	**IC4002**		5	0	**Q4003**		B	1.9	C	0	E	0	**TP4001**	5.4
3	12.0	**P1903**		**P1906**		S	5.1	**TP1963**	10.8	1	10.5	6	1.5	E	1.9	**Q4009**		B	-0.3	C	0		
4	-	1	8.8	1	10.8	**Q1906**		**IC4001**		2	4.7	7	1.4	C	5.0	E	2.0	**Q4014**		B	16.3		
5	0	2	0	2	0	E	16.3	1	0	3	0	8	5.0	B	2.5	C	5.0	E	0	**Q4019**			
IC1961		3	0.1	3	0.1	C	16.3	2	0	4	2.9	9	5.0	**Q4004**		B	2.6	C	-0.3	E	0		
1	14.4	4	-	**Q1901**		B	15.6	3	2.0	5	6.0	10	1.5	E	2.0	**Q4010**		B	0	C	0		
2	3.4	**P1905**		E	0	**TP1901**	12.0	4	2.0	6	6.2	11	2.0	C	5.0	E	7.0	**Q4015**		B	0		
3	10.8	1	16.3	C	0	**TP1902**	5.1	5	0	7	0	12	0	B	2.5	C	12.0	E	14.3	**Q4020**			
4	1.3	2	14.4	B	0.6	**TP1903**	5.1	6	0	8	6.3	13	4.4	**Q4006**		B	7.6	C	-0.2	E	0		
5	0	3	14.4	**Q1902**		**TP1904**	15.3	7	0	9	14.3	14	1.0	E	1.9	**Q4011**		B	14.2	C	0		
IC1962		4	5.2	E	0	**TP1907**	0	8	0	**IC4003**		15	1.9	C	5.0	E	7.6	**Q4016**		B	0		

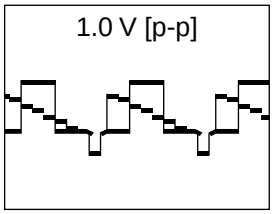
PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE
IC6002		11	3.3	1	5.1	27		3	-	29	0	55	5.1	81	0	2	0	2	0	C	0.1
1	1.9	12	2.8	2	5.1	28	0	4	5.0	30	0	56	0	82	5.1	3	0	**P6005**		B	0.6
2	3.1	13	0.4	3	0	**IC6006**		5	-	31	0	57	0	83	5.1	4	0	1	5.1	**Q6003**	
3	4.7	14	3.3	4	5.1	1	0	6	-	32	5.1	58	0	84	5.1	5	4.0	2	5.1	E	0
4	0	**IC6004**		5	5.1	2	2.5	7	5.0	33	5.1	59	5.1	85	5.1	6	4.0	3	5.1	C	0
5	0	1	10.1	6	5.1	3	0	8	5.0	34	5.1	60	5.1	86	5.1	7	0	4	5.1	B	5.1
6	3.3	2	3.9	7	0	4	2.9	9	5.0	35	5.1	61	0	87	0	8	5.1	5	5.1	**Q6004**	
7	0	3	5.1	8	0	5	3.3	10	5.0	36	5.2	62	5.1	88	0	**IC6010**		6	5.1	E	5.0
8	3.3	4	-1.2	9	0	6	0.1	11		37	5.2	63	5.1	89	0	1	0	7	5.1	C	4.8
9	0	5	4.2	10	0	7	0	12	4.5	38	3.6	64	5.1	90	0	2	5.1	8	5.1	B	5.0
10	3.0	6	-1.0	11	0	8	0	13	0	39	1.5	65	5.1	91	0	3	0	9	5.1	**Q6005**	
11	0.6	7	5.1	12	0	9	4.5	14	0.5	40	0	66	5.1	92	0	4	0	10	5.1	E	5.0
12	1.8	8	5.1	13	0	10	0	15	0	41	0	67	5.1	93	0	5	5.1	11	5.1	C	4.6
13	3.1	9	5.1	14	0	11	4.8	16	0	42	0	68	5.1	94	0	6	4.8	12	5.1	B	5.0
14	3.3	10	5.1	15	5.1	12	0.1	17	0	43	5.0	69	0	95	4.9	7	0	13	5.1	**Q6006**	
IC6003		11	0	16	5.1	13	0	18	0	44	0	70	0	96	0	8	5.1	14	5.1	E	5.0
1	4.6	12	0	17	5.1	14	0	19	0	45	5.1	71	0	97	5.1	**P6001**		15	-	C	4.5
2	0.5	13	-10.0	18	5.1	15	5.0	20	2.0	46	0	72	5.1	98	5.1	1	5.2	16	5.1	B	5..0
3	2.8	14	-10.0	19	2.7	16	4.4	21	4.6	47	5.1	73	5.1	99	4.0	2	0	17	5.1	**Q6007**	
4	3.3	15	0	20	2.7	17	0	22	0	48	5.0	74	5.1	100	5.1	3	4.7	18	0	E	5.1
5	0	16	5.1	21	5.1	18	2.2	23	4.8	49	5.1	75	5.1	**IC6008**		**P6002**		**Q6001**		C	-
6	0	17	-10.0	22	5.1	19	0	24	4.6	50	5.1	76	5.1	1	5.0	1	3.6	E	4.4	B	5.1
7	0	18	-1.1	23	0	20	5.0	25	4.5	51	5.1	77	5.1	2	5.0	2	0	C	5.1	**Q6008**	
8	0.5	19	0	24	5.1	**IC6007**		26	4.4	52	5.1	78	5.1	3	0	3	1.5	B	5.1	E	5.1
9	3.3	20	4.0	25	0	1	5.0	27	0	53	5.1	79	5.1	**IC6009**		**P6004**		**Q6002**		C	5.1
10	1.6	**IC6005**		26		2	2.3	28	4.8	54	5.1	80	0	1	5.1	1	0	E	0	B	4.5

PIN NO.	VOLTAGE
TP6001	2.9
TP6002	5.1
TP6003	0
TP6006	5.0
TP6007	5.0
TP6008	0
TP6009	0
TP6010	-
TP6011	5.1
TP6012	-
TP6013	5.1
TP6014	-
TP6015	5.1
TP6016	-
TP6017	5.1

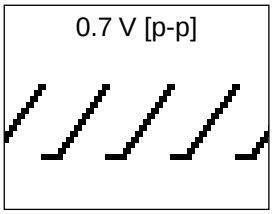
PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE
IC6601		5	-	10	-	15	-	20	-	25	0.1	30	3.4	35	-	40	0	**IC6602**	
1	-	6	4.6	11	-	16	-	21	-	26	-	31	0	36	-	41	4.6	1	0.1
2	-	7	0	12	-	17	-	22	-	27	-	32	3.4	37	-	42	-	2	0.1
3	-	8	-	13	-	18	-	23	-	28	0	33	-	38	-	43	-	3	0
4	-	9	-	14	-	19	-	24	-	29	4.6	34	0	39	2.0	44	-		

PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE	PIN NO.	VOLTAGE
Q5013		**Q5021**		**Q5045**		**Q5047**	
E	4.1	E	4.1	E	0	E	4.1
C	11.9	C	11.9	C	0	C	11.9
B	4.7	B	4.7	B	0.7	B	0
Q5017		**Q5044**		**Q5046**			
E	4.1	E	0	E	4.1		
C	11.9	C	0	C	11.9		
B	4.7	B	0.1	B	0		

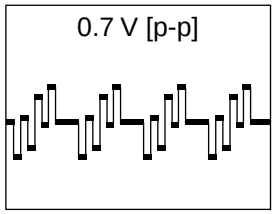
D1



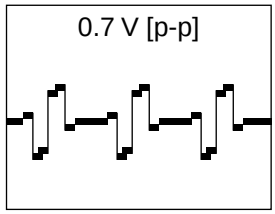
D2



D3



D4



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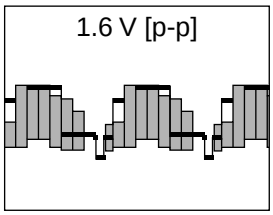

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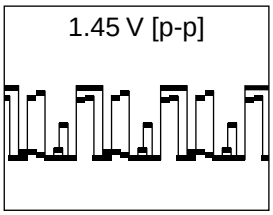

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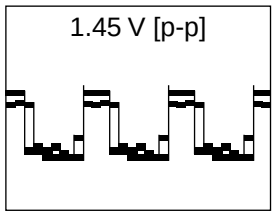

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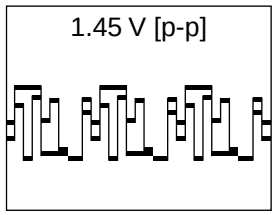

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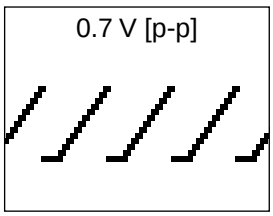

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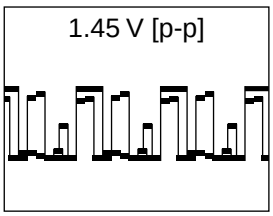

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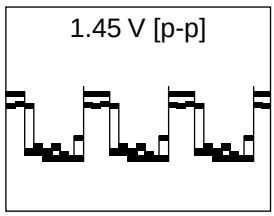

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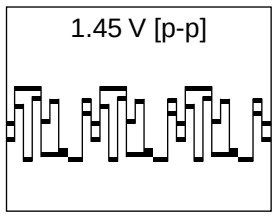

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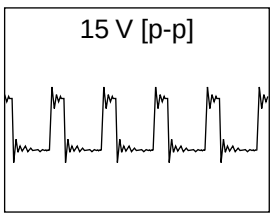

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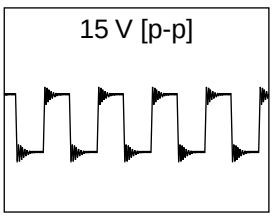

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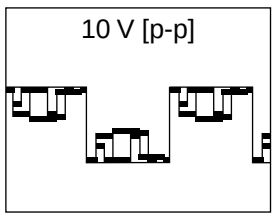

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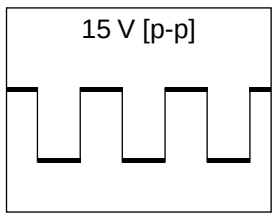

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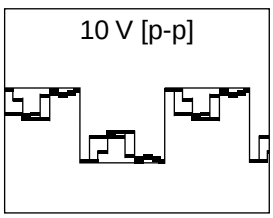

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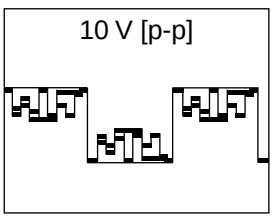

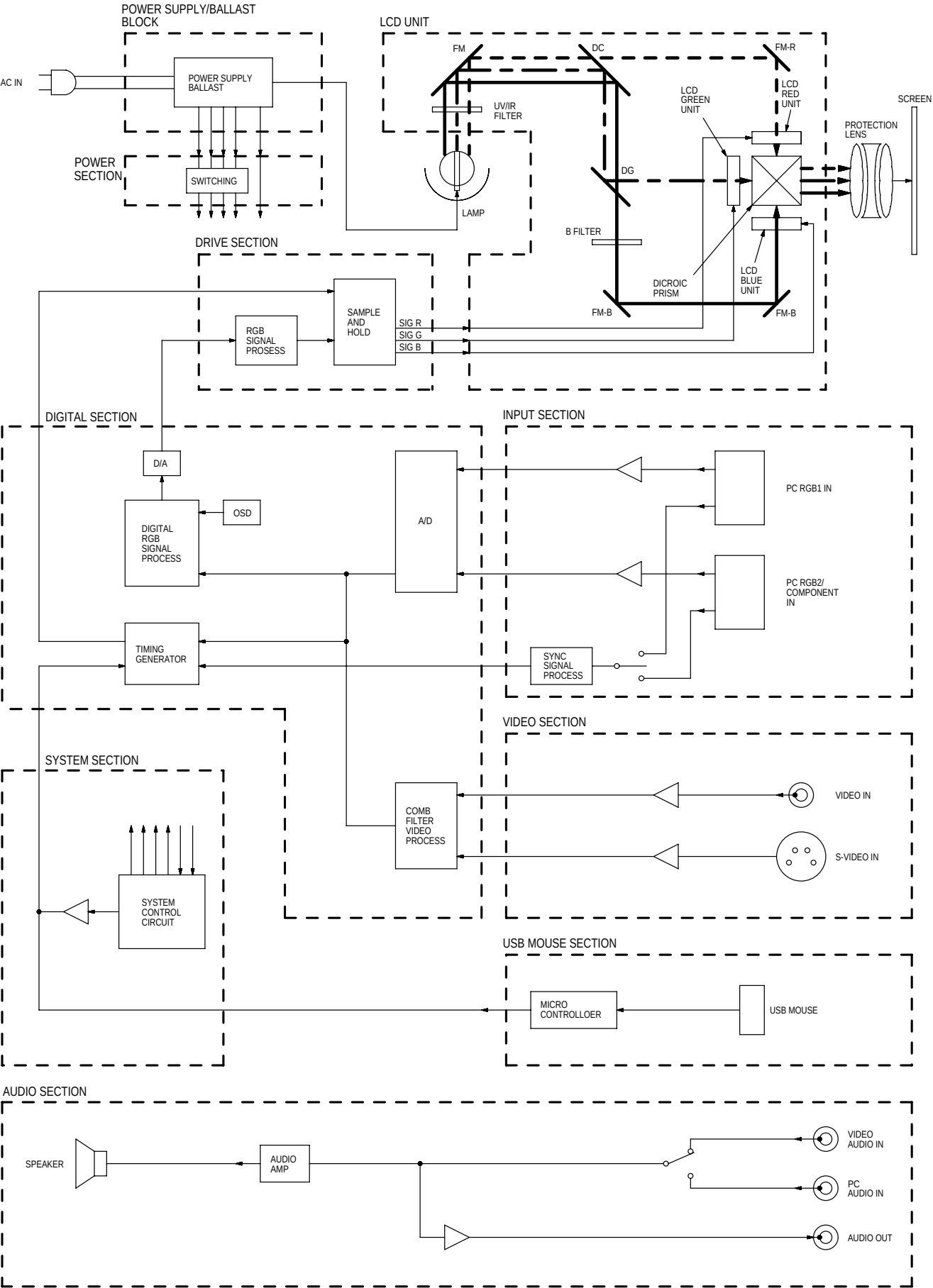
POWER SUPPLY/BALLAST BLOCK
AC IN
POWER SUPPLY BALLAST
POWER SECTION
SWITCHING
LCD UNIT
FM
DC
FM-R
UV/IR FILTER
LAMP
LCD GREEN UNIT
LCD RED UNIT
SCREEN
PROTECTION LENS
DG
B FILTER
DICROIC PRISM
LCD BLUE UNIT
FM-B
FM-B
DRIVE SECTION
RGB SIGNAL PROSESS
SAMPLE AND HOLD
SIG R
SIG G
SIG B
DIGITAL SECTION
INPUT SECTION
D/A
OSD
DIGITAL RGB SIGNAL PROCESS
A/D
PC RGB1 IN
PC RGB2/ COMPONENT IN
TIMING GENERATOR
SYNC SIGNAL PROCESS
VIDEO SECTION
SYSTEM SECTION
COMB FILTER VIDEO PROCESS
VIDEO IN
S-VIDEO IN
SYSTEM CONTROL CIRCUIT
USB MOUSE SECTION
MICRO CONTROLLOER
USB MOUSE
AUDIO SECTION
SPEAKER
AUDIO AMP
VIDEO AUDIO IN
PC AUDIO IN
AUDIO OUT

Panasonic

LCD PROJECTOR

Operating Instructions

Model No. PT-L759U